

- SURVEY NOTES:**
- LOCUS IS SHOWN AS PARCELS 34-83, 34-84, 34-87, 34-88, 34-89, AND 34-90 ON THE TOWN OF ROCKLAND ASSESSOR'S MAPS.
  - DEEDS TO LOCUS ARE RECORDED IN THE PLYMOUTH COUNTY REGISTRY OF DEEDS
  - AT BOOK PAGE  
5647 277  
49968 234  
49365 333  
34528 215  
6042 252  
49968 232
  - THIS SURVEY WAS MADE ON THE GROUND IN SEPTEMBER OF 2019 BY MCKENZIE ENGINEERING GROUP, INC.
  - ELEVATIONS SHOWN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988.
  - LOCUS IS ZONED RESIDENTIAL R2 AND BUSINESS B1
- MINIMUM SETBACK REQUIREMENTS:**
- |            | RESIDENTIAL R2 | BUSINESS B1 |
|------------|----------------|-------------|
| FRONT YARD | 25'            | -           |
| SIDE YARD  | 15'            | -           |
| REAR YARD  | 50'            | *           |
- \* THE MINIMUM YARD DIMENSION ABUTTING ANY RESIDENTIAL DISTRICT SHALL BE 30 FEET.
- LOCUS IS SITUATED IN ZONE X AS SHOWN ON F.I.R.M. No. 25023C0093J, EFFECTIVE JULY 17, 2012.
  - LOCUS IS NOT LOCATED IN A DEP ZONE 2 OR TOWN OF ROCKLAND AQUIFER PROTECTION ZONE.
  - UTILITY INFORMATION FROM ABOVE GROUND OBSERVED EVIDENCE IN CONJUNCTION WITH DIG SAFE MARKINGS AND RECORD PLANS. THE LAND SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE LAND SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED, BEFORE CONSTRUCTION CALL DIG SAFE SYSTEMS, INC. AT 1-888-344-7233.
  - WATER CURB BOX IN DYER STREET IS FOR THE BENEFIT OF #5 & #8 DYER STREET. SERVICE CONNECTIONS EXTEND FROM THE 3" MAIN AND WATER DEPARTMENT HAS NO RECORD OF SERVICE LINES TO THE PARCELS.
  - PLAN REFERENCES:
- | PB | PG  |
|----|-----|
| 3  | 563 |
| 8  | 557 |
| 23 | 130 |
| 39 | 170 |
- PLAN 94 OF 1956  
LOP 265144
- BORDERING VEGETATED WETLAND WAS DELINEATED BY ENVIRONMENTAL CONSULTING & RESTORATION, LLC ON SEPTEMBER 4, 2019 AND FIELD LOCATED BY MCKENZIE ENGINEERING GROUP, INC. IN SEPTEMBER OF 2019.
  - ASSESSOR'S PARCELS 34-87, 34-88, 34-89 AND PORTION OF DYER STREET RIGHT OF WAY WERE RECENTLY COMBINED BY ANR PLAN AND RECORDED AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS AS PLAN BOOK 63 PAGE 1082.
  - ASSESSOR'S PARCEL 34-84 AND PORTION OF DYER STREET RIGHT OF WAY WERE RECENTLY COMBINED BY ANR PLAN AND RECORDED AT THE PLYMOUTH COUNTY REGISTRY OF DEEDS AS PLAN BOOK 63 PAGE 1083.

**ABBREVIATIONS**

FFE FIRST FLOOR ELEVATION  
BIT CONC. BITUMINOUS CONCRETE PAVEMENT  
C/CB CAFE C&B BERM  
EP EDGE OF PAVEMENT  
BC BITUMINOUS CONCRETE CURB  
(AM) AS MEASURED  
RET WALL RETAINING WALL  
CONC. CONCRETE  
RCP REINFORCED CONCRETE PIPE  
VCC VERTICAL GRANITE CURB  
ETW EDGE OF TRAVEL WAY  
MTL METAL BERM  
VCC VERTICAL CONCRETE CURB  
CMP CORRUGATED METAL PIPE

## LEGEND

### SURVEY SYMBOLS

- REBAR
- ANGLE IRON
- CONCRETE BOUND WITH DRILL HOLE
- STONE BOUND
- STONE BOUND

### UTILITY SYMBOLS

- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- BUILDING LIGHT
- TRANSFORMER
- WATER GATE
- EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- ELECTRIC MANHOLE
- SEWER MANHOLE
- DRAIN MANHOLE
- TELEPHONE MANHOLE
- DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATOR VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- BOLLARD
- SIGN
- FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

### LINE DESIGNATORS

- WATER MAIN
- HANDRAIL
- JERSEY BARRIER
- GUARD RAIL
- OVERHEAD WIRES
- GAS LINE
- WATER SERVICE
- UNDERGROUND ELECTRIC
- STORM DRAIN LINE
- SANITARY SEWER LINE
- CHAIN LINK FENCE

### ZONING REQUIREMENTS

DISTRICT	MINIMUM LOT AREA (S.F.)	MAXIMUM NUMBER OF DWELLINGS	MAXIMUM BUILDING AVERAGE % OF LOT	MAXIMUM HEIGHT (STORIES/ FEET)	BUILDING SETBACKS		
					FRONT	REAR	SIDE
R-1	32,670	1	25%	2.5/30 ***	25	50	15
R-2	32,670	1	30%	2.5/30 ***	25	50	15
B-1	-	8	80%	3.0/36	-	*	*

\* THE MINIMUM YARD DIMENSION ABUTTING ANY RESIDENTIAL DISTRICT SHALL BE 30 FEET.

\*\*\* THE MAXIMUM HEIGHT (STORIES/FEET) MAY BE INCREASED TO 3.0/36 ON LOTS WITH AN AREA OF 32,670 SQUARE FEET OR GREATER AND THAT THE STRUCTURE MEETS ALL THE CURRENT SETBACKS.

SCALE: 1" = 30'

0 15 30 60 120

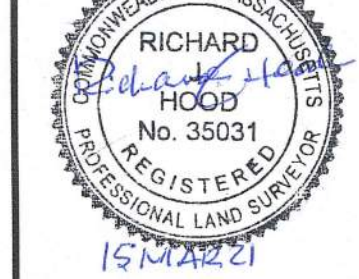
© MCKENZIE ENGINEERING GROUP, INC.

M:\MEG\2020 PROJECTS\220-163 GASPAR, MIKE - DYER STREET, ROCKLAND\DWGS\219-167.DWG

## EXISTING CONDITIONS PLAN

ASSESSOR'S MAP 34, LOTS 83, 84, 87, 88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL LAND SURVEYOR:



APPLICANT:  
GASPAR INVESTMENT INC.  
285 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY: ESS  
DESIGNED BY: ESS  
CHECKED BY: RTLS  
APPROVED BY: RJH  
DATE: OCTOBER 23, 2020  
SCALE: 1"=30'  
PROJECT NO.: 220-163  
DWG. TITLE:

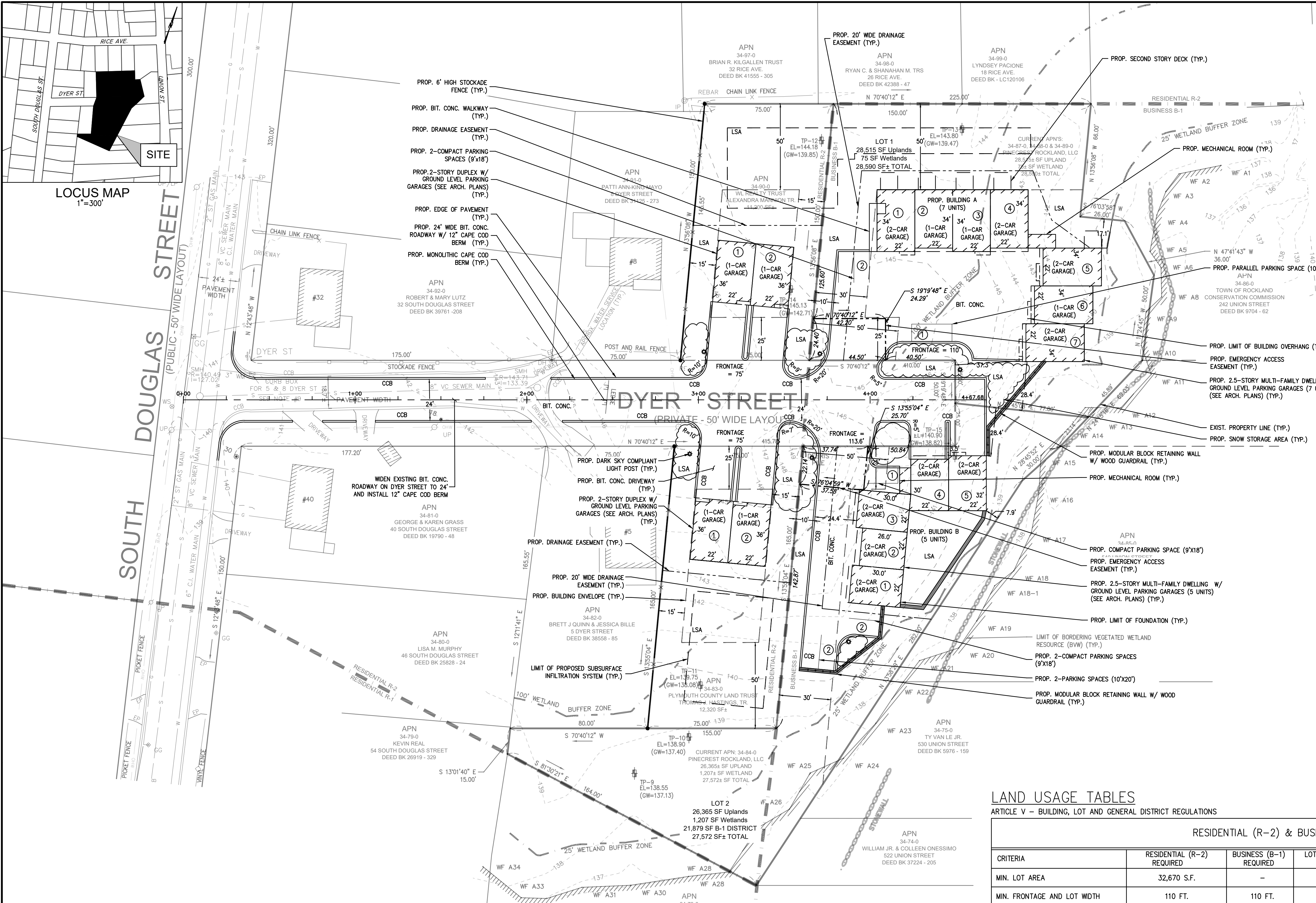
EXISTING  
CONDITIONS  
PLAN

DWG. NO:

EX-1

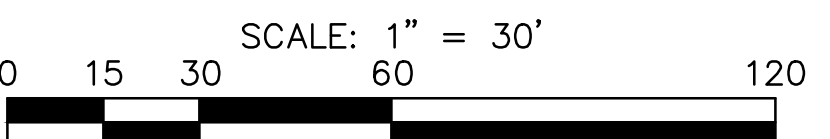
NOT FOR CONSTRUCTION





- ABBREVIATIONS**
- FFE FIRST FLOOR ELEVATION
  - BIT CONC. BITUMINOUS CONCRETE PAVEMENT
  - CCB CAPE COD BERM
  - CEM. CONC. CEMENT CONCRETE
  - C.I. CAST IRON
  - C.L. CEMENT LINED
  - EP EDGE OF PAVEMENT
  - BC BITUMINOUS CONCRETE CURB
  - (AM) AS MEASURED
  - RET WALL RETAINING WALL
  - CONC. CONCRETE
  - RCP REINFORCED CONCRETE PIPE
  - VCC VERTICAL GRANITE CURB
  - ETW EDGE OF TRAVEL WAY
  - MTL METAL BERM
  - VCC VERTICAL CONCRETE CURB
  - CMP CORRUGATED METAL PIPE
  - LSA LANDSCAPED AREA
  - TRANS. TRANSFORMER
  - GEN. GENERATOR
  - HDPE HIGH-DENSITY POLYETHYLENE

- LEGEND**
- SURVEY SYMBOLS**
- REBAR
  - ANGLE IRON
  - CONCRETE BOUND WITH DRILL HOLE
  - STONE BOUND
  - STONE BOUND
- UTILITY SYMBOLS**
- CHIMNEY
  - ELECTRIC HAND HOLE
  - GUY POLE
  - GUY WIRE
  - HVAC UNIT
  - BUILDING LIGHT W/MAST
  - BUILDING LIGHT
  - TRANSFORMER
  - WATER GATE
  - EXHAUST VENT
  - AIR VENT
  - DRAINAGE SUMP
  - ELECTRIC MANHOLE
  - SEWER MANHOLE
  - DRAIN MANHOLE
  - TELEPHONE MANHOLE
  - DRAINAGE CATCH BASIN
  - DOOR WAY THRESHOLD
  - HYDRANT
  - POST INDICATOR VALVE
  - UTILITY POLE
  - YARD LIGHT
  - RIP RAP
  - BOLLARD
  - SIGN
  - FIRE ALARM
  - DECIDUOUS TREE
  - CONIFEROUS TREE
- LINE DESIGNATORS**
- WATER MAIN
  - OVERHEAD WIRES
  - GAS LINE
  - WATER SERVICE
  - UNDERGROUND ELECTRIC
  - STORM DRAIN LINE
  - SANITARY SEWER LINE
  - DRAINAGE SWALE
  - CHAIN LINK FENCE



**PARKING CALCULATIONS**

ARTICLE V: SECTION 415-35 - OFF-STREET PARKING REQUIREMENTS

COMPONENT	REQUIRED (ROCKLAND ZONING BYLAW)	REQUIRED	PROPOSED
DWELLINGS (TWO-FAMILY OR MULTI-FAMILY RESIDENCE)	3 PER DWELLING UNIT (30% ALLOWABLE COMPACT VEHICLE SPACES)	PROPOSED DUPLEX (APN 34-83): 2 UNITS X 3 SPACES = 6 SPACES	2 - GARAGE 4 - DRIVEWAY (10'x20') TOTAL: 6
		PROPOSED DUPLEX (APN 34-90): 2 UNITS X 3 SPACES = 6 SPACES	2 - GARAGE 4 - DRIVEWAY (10'x20') TOTAL: 6
		PROPOSED BUILDING A (LOT 1): 7 UNITS X 3 SPACES = 21 SPACES	11 - GARAGE 8 - DRIVEWAY (10'x20') 2 - STRIPED COMPACT SPACES (9'x18') 1 - STRIPED PARALLEL PARKING SPACE (10'x23') TOTAL: 22 (2 COMPACT)
		PROPOSED BUILDING B (LOT 2): 5 UNITS X 3 SPACES = 15 SPACES	10 - GARAGE 3 - STRIPED COMPACT SPACES (9'x18') 2 - STRIPED PARKING SPACES (10'x20') TOTAL: 15 (3 COMPACT)

**LAND USAGE TABLES**

ARTICLE V - BUILDING, LOT AND GENERAL DISTRICT REGULATIONS

RESIDENTIAL (R-2) & BUSINESS (B-1) ZONING DISTRICT						
CRITERIA	RESIDENTIAL (R-2) REQUIRED	BUSINESS (B-1) REQUIRED	LOT 1 (BUILDING A) PROPOSED	LOT 2 (BUILDING B) PROPOSED	APN 34-83 PROPOSED	APN 34-90 PROPOSED
MIN. LOT AREA	32,670 S.F.	-	28,590 S.F.	27,572 S.F.	12,320 S.F.	11,200 S.F.
MIN. FRONTAGE AND LOT WIDTH	110 FT.	110 FT.	110 FT.	113.6 FT.	75 FT.	75 FT.
MAX. HEIGHT	2.5 STORIES/30 FT.*	3 STORIES/36 FT.	33 FT.	33 FT.	22 FT.	22 FT.
MAX. BUILDING COVERAGE	30%	80%	21.6%	13.4%	12.8%	14.1%
MAX. DWELLING UNITS PER 32,670 S.F.	1: TWO-FAMILY RESIDENCES PERMITTED AS PRINCIPAL USE	8	7 PROPOSED UNITS, 7 UNITS ALLOWED	5 PROPOSED UNITS, 6.75 UNITS ALLOWED	2 PROPOSED UNITS	2 PROPOSED UNITS
MIN. FRONT YARD	25 FT.	-	37.3 FT.	3.5 FT.	30.0 FT.	30.0 FT.
MIN. SIDE YARD	15 FT.	**	28.4 FT.	28.4 FT.	15.3 FT.	15.3 FT.
MIN. REAR YARD	50 FT.	**	17.1 FT.	7.9 FT.	94.3 FT.	79.4 FT.

\* THE MAXIMUM HEIGHT (STORIES/FEET) MAY BE INCREASED TO 3.0/36 ON LOTS WITH AN AREA OF 32,670 S.F. OR GREATER AND THAT THE STRUCTURE MEETS ALL THE CURRENT SETBACKS.  
\*\* THE MINIMUM YARD DIMENSION ABUTTING ANY RESIDENTIAL DISTRICT SHALL BE 30 FT.

**NOTES**

1. TRANSITION YARD REQUIREMENTS, FRONT YARD. WHERE A RESIDENCE DISTRICT ABUTS A NON-RESIDENCE DISTRICT, THERE SHALL BE PROVIDED IN THE NON-RESIDENCE DISTRICT FOR A DISTANCE OF 50 FT. FROM THE DISTRICT BOUNDARY LINE, A FRONT YARD AT LEAST EQUAL IN DEPTH TO THAT REQUIRED IN THE RESIDENCE DISTRICT.

2. TRANSITION YARD REQUIREMENTS, SIDE OR REAR YARD. WHERE THE SIDE OR REAR YARD IN A RESIDENCE DISTRICT ABUTS A SIDE OR REAR YARD IN A NON-RESIDENCE DISTRICT, THERE SHALL BE PROVIDED ALONG SUCH ABUTTING LINES, A SIDE OR REAR YARD AT LEAST EQUAL IN DEPTH TO THAT REQUIRED IN THE RESIDENCE DISTRICT. IN NO CASE, HOWEVER SHALL THE ABUTTING SIDE OR REAR YARD BE LESS THAN 20 FT.

3. ALL RESIDENTIAL ZONES AND THE BUSINESS B-1 DISTRICT, ALL PARKING AREAS, LOADING AREAS, AND AREAS USED FOR ACCESS, EGRESS OR ONSITE CIRCULATION SHALL BE SET BACK A MINIMUM OF 10 FEET FROM ANY PROPERTY LINE AND THE TEN-FOOT SETBACK SHALL BE PROPERLY LANDSCAPED AND MAINTAINED.

**SITE DEVELOPMENT PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:

APPLICANT:  
**GASPAR INVESTMENT INC.**  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

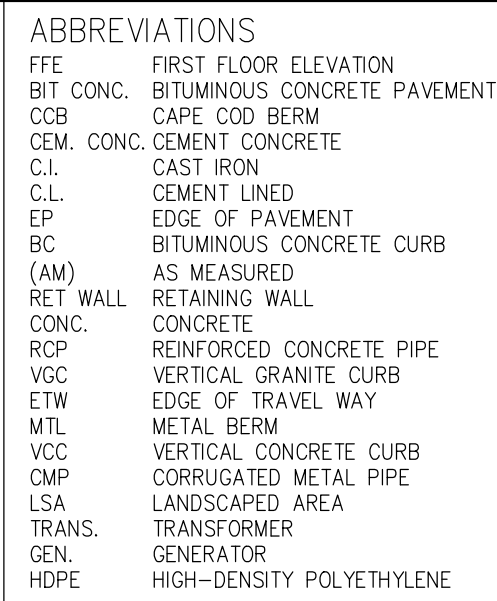
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DESIGNED BY: ESS  
CHECKED BY: BCM  
APPROVED BY: BCM  
DATE: OCTOBER 23, 2020  
SCALE: 1"=30'  
PROJECT NO.: 220-163  
DWG. TITLE:

**SITE LAYOUT PLAN**

DWG. NO.: **C-1**

**PERMIT PLAN SET**





# LEGEND

## SURVEY SYMBOLS

- REBAR
- ✓ ANGLE IRON
- CB/DH □ CONCRETE BOUND WITH DRILL HOLE
- SB □ STONE BOUND
- SB/DH □ STONE BOUND

## UTILITY SYMBOLS

- CHIMNEY
- ELECTRIC HAND HOLE
- GUY POLE
- GW/ GUY WIRE
- HVAC UNIT
- BUILDING LIGHT W/MAST
- TRANSFORMER
- WATER GATE
- EXH/ EXHAUST VENT
- AIR VENT
- DRAINAGE SUMP
- EMH ELECTRIC MANHOLE
- SMH SEWER MANHOLE
- DMH DRAIN MANHOLE
- TMH TELEPHONE MANHOLE
- DRAINAGE CATCH BASIN
- DOOR WAY THRESHOLD
- HYDRANT
- POST INDICATOR VALVE
- UTILITY POLE
- YARD LIGHT
- RIP RAP
- BOLLARD
- SIGN
- FA FIRE ALARM
- DECIDUOUS TREE
- CONIFEROUS TREE

## LINE DESIGNATORS

- W WATER MAIN
- OHW OVERHEAD WIRES
- G GAS LINE
- WS WATER SERVICE
- E UNDERGROUND ELECTRIC
- D STORM DRAIN LINE
- S SANITARY SEWER LINE
- SWALE
- X CHAIN LINK FENCE

REV	DATE	DESCRIPTION	BY	APP
1	3/15/21	WIDENED ROADWAY	ESS	BCM
2	6/7/21	DRAINAGE REVISION	ESS	BCM
3	6/29/21	DRAINAGE REVISION	ESS	BCM

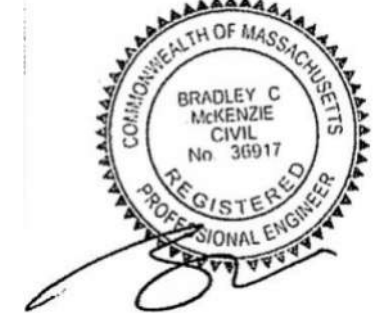


# SITE DEVELOPMENT PLAN

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
(  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PERMIT PLAN SET

PROFESSIONAL ENGINEER:



APPLICANT: **GASPAR INVESTMENT INC.**  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	1"=30'
PROJECT NO.:	220-163
DWG. TITLE:	

# GRADING AND DRAINAGE PLAN

DWG. NO:

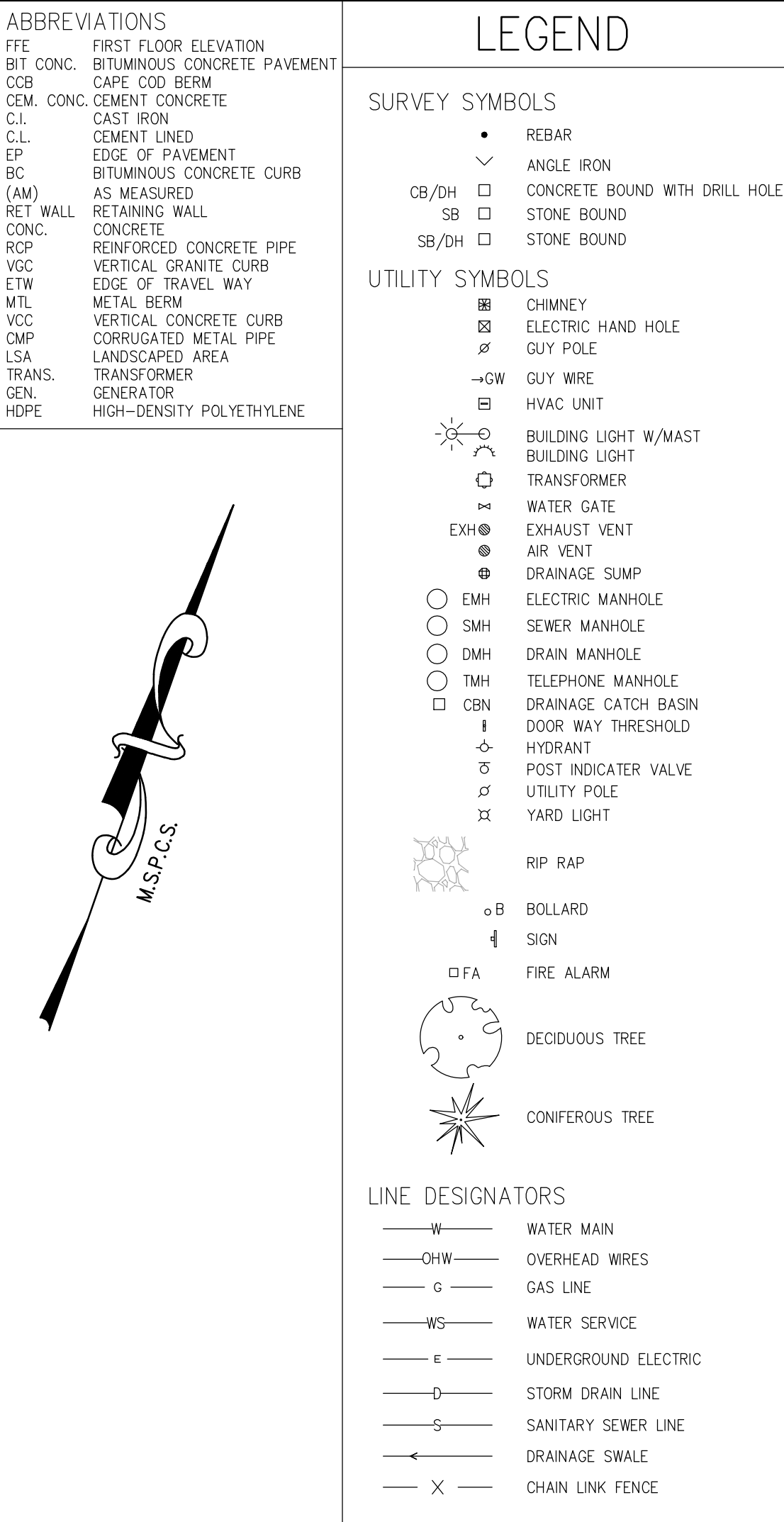
C-2

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M-VALUE 2020 PROJECTSV20-16

GASPAR MIKE - OVER STREET BIKER AND VIOLENCE 219-167 MAINTENANCE



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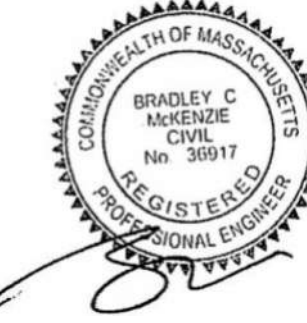
**MCKENZIE**  
ENGINEERING GROUP

Assinippi Office Park  
150 Longwater Drive, Suite 101  
Norwell, MA 02061  
P: 781.792.3900  
F: 781.792.0333  
[www.mckeng.com](http://www.mckeng.com)

**SITE DEVELOPMENT  
PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:



APPLICANT:  
GASPAR INVESTMENT INC.  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	1"=30'
PROJECT NO.:	220-163
DWG. TITLE:	

## UTILITY PLAN

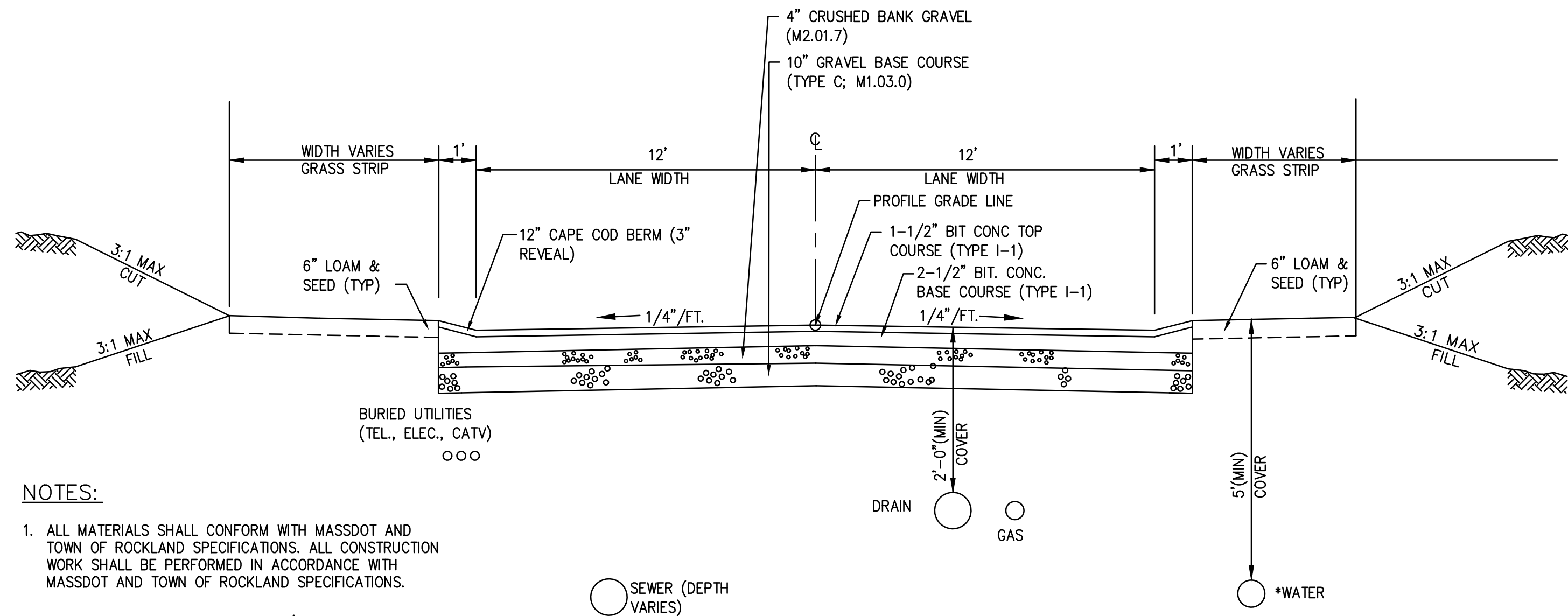
DWG. NO: C-3

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LOCUS MAP  
1"=300'

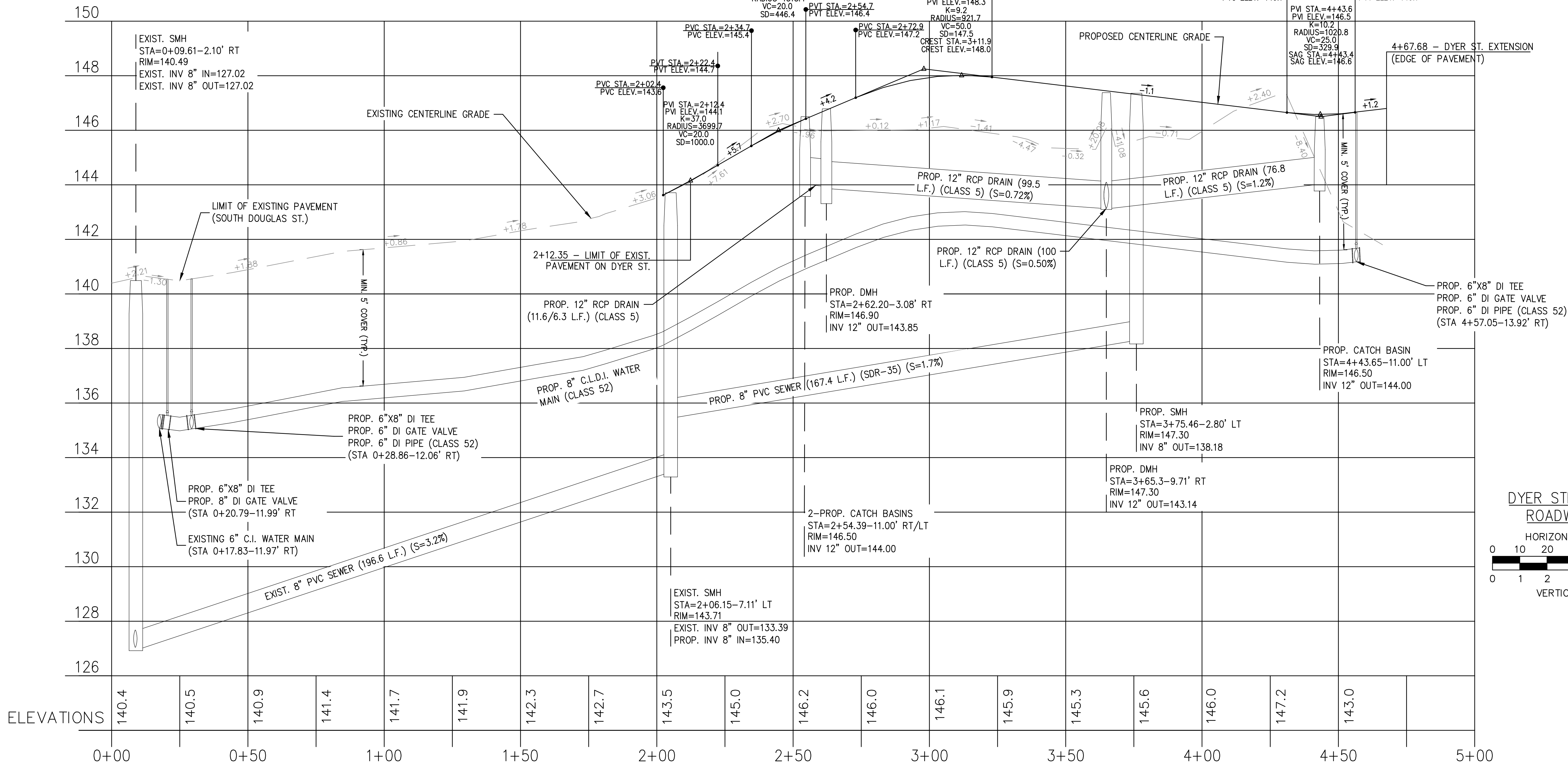


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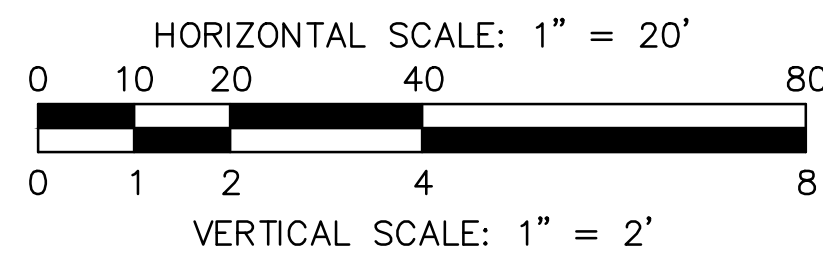
1. ALL MATERIALS SHALL CONFORM WITH MASSDOT AND TOWN OF ROCKLAND SPECIFICATIONS. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH MASSDOT AND TOWN OF ROCKLAND SPECIFICATIONS.

\*PROVIDE A MINIMUM DISTANCE OF 3' BETWEEN THE WATER MAIN AND ANY DRAIN STRUCTURE, TO PREVENT FREEZING.

DYER STREET EXTENSION CROSS SECTION  
STA 2+02.4-4+67.68  
NOT TO SCALE



DYER STREET EXTENSION  
ROADWAY PROFILES



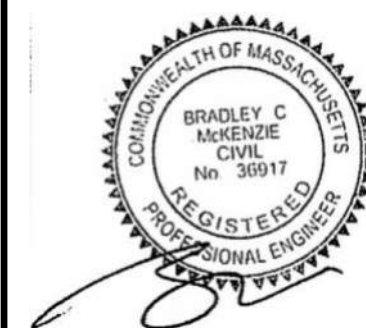
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REV	DATE	DESCRIPTION	BY	APP
1	3/15/21	WIDENED ROADWAY	ESS	BCM
2	6/7/21	DRAINAGE REVISION	ESS	BCM
3	6/29/21	DRAINAGE REVISION	ESS	BCM



**SITE DEVELOPMENT  
PLAN**  
ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:



APPLICANT:  
**GASPAR INVESTMENT INC.**  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	AS NOTED
PROJECT NO.:	220-163
DWG. TITLE:	

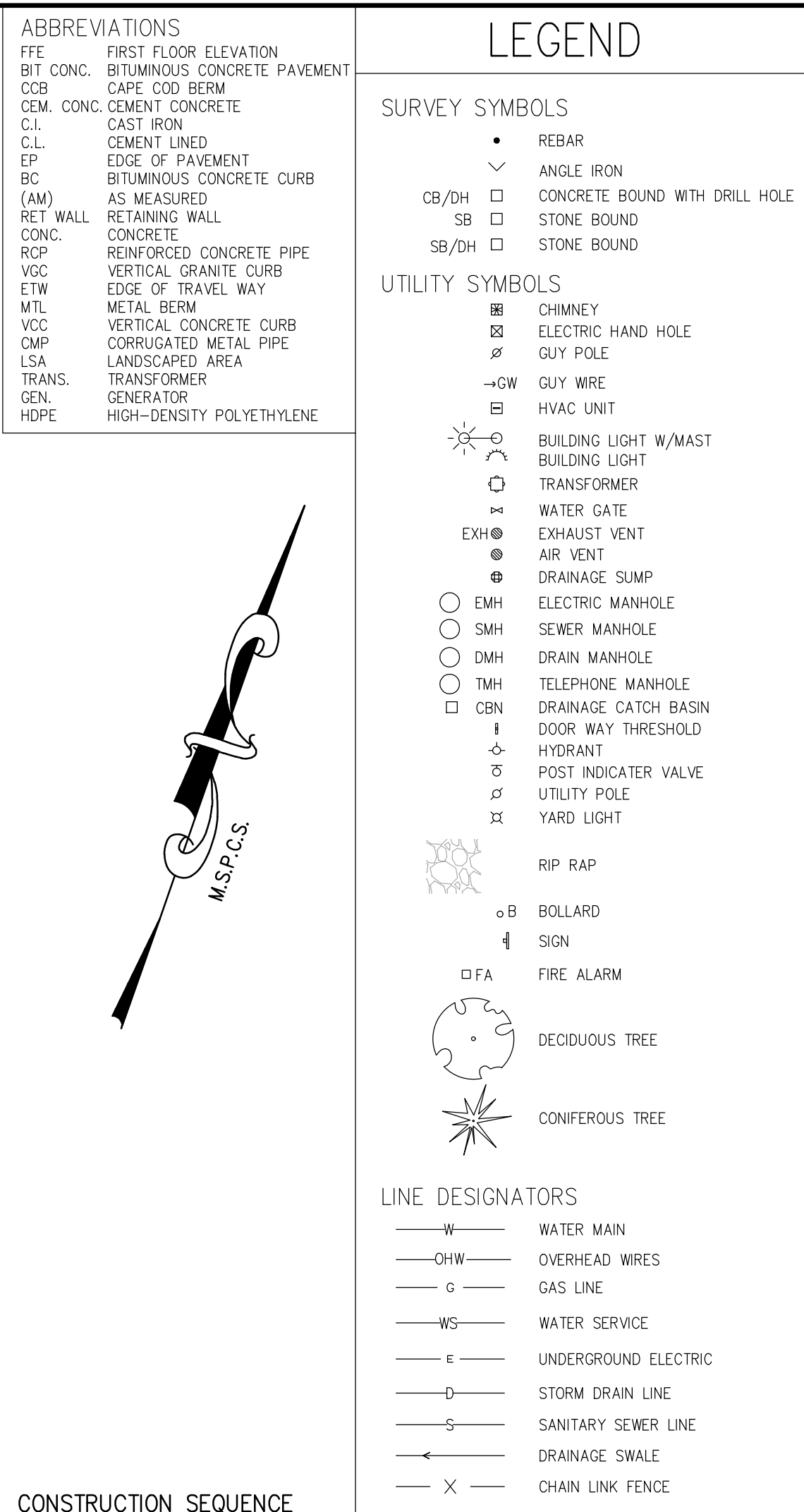
**ROADWAY  
PROFILE**

DWG. NO.:

**C-4**

PERMIT PLAN SET





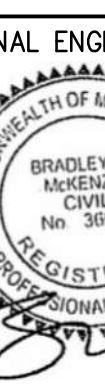

TO PREVENT EXCESSIVE EROSION AND SILTING, THE FOLLOWING CONSTRUCTION SPECIFICATION COUPLED WITH OTHER WIDELY ACCEPTED PRINCIPALS FOR REDUCING EROSION AND SEDIMENTATION SHALL BE IMPLEMENTED IN THE DEVELOPMENT OF THE SITE.

1. THE CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING PRIOR TO ANY CONSTRUCTION ACTIVITY.
2. STABILIZATION PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN & PLACE SILTATION FENCE ON THE SITE PLANS.
3. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE.
4. CLEAR AND GRUB UP AS REQUIRED FOR THE CONSTRUCTION OF THE ROADWAY, PARKING AREAS AND RELATED INFRASTRUCTURE.
5. CONSTRUCT TEMPORARY SEDIMENTATION BASINS AND EROSION CONTROL MITIGATION, EXCAVATE TOPSOIL, AND EROSION FROM CUT AND FILL AREAS AND STOCKPILE ON SITE IN LOCATIONS SHOWN ON THE PLAN. CONSIDERATION SHOULD BE GIVEN TO LOCATING STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, WHERE POSSIBLE, TO ACT AS TEMPORARY DIVERSIONS.
6. CONSTRUCT CUT AND FILL AREAS, INSTALLING STRAINABLE CHECK DAMS AT TOES OF ALL 3:1 OR GREATER SLOPES, AND AT ENDS OF ALL CUT AREAS. ALL FILL WILL BE INSTALLED USING 12" MAXIMUM COMPACTION LIFTS. PLACE ALL SLOPE PROTECTION WHERE INDICATED ON THE PLAN. THE STORMWATER SUBSURFACE INFILTRATION SYSTEMS SHALL BE CONSTRUCTED IMMEDIATELY AFTER THE ROADWAY ROUGH GRADING IS COMPLETED AND THE AREA HAS BEEN CLEARED OF VEGETATION.
7. INSTALL CLOSED DRAINAGE SYSTEM ON DYER ST., AND EXTEND OTHER UTILITIES FROM SOUTH DOUGLAS STREET. UTILITIES SHALL BE STUBBED AT PROPERTY LINES AS NEEDED. ALL CATCH BASINS SHALL BE COVERED WITH SILTSCAP OR EQUIVALENT INLET PROTECTION.
8. GRADE ROADWAY AND LOTS TO SUBGRADE ELEVATION AND CONSTRUCT SIDE SLOPES. APPLY TEMPORARY STABILIZATION MEASURES WHERE WARRANTED. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN.
9. EXCAVATE AND CONSTRUCT FOUNDATIONS FOR MULTI-FAMILY BUILDINGS (BUILDINGS A & B).
10. FINALIZE CONSTRUCTION OF STORMWATER SUBSURFACE INFILTRATION SYSTEMS WITH OUTLET CONTROL STRUCTURES PRIOR TO FALL 2021.
11. PLACE GRAVEL SUBBASE ON ROADWAY AND MULTI-FAMILY LOTS (BUILDINGS A & B) BY FALL 2021.
12. PLACE THE BITUMINOUS CONCRETE BINDER COURSE ON ROADWAY AND PARKING AREAS FOR MULTI-FAMILY LOTS (BUILDINGS A & B) BY FALL 2021.
13. CONSTRUCT MULTI-FAMILY STRUCTURES WITH ASSOCIATED UTILITY CONNECTIONS AND FINALIZE MULTI-FAMILY LOT GRADING.
14. PLACE TEMPORARY SEEDING ON DISTURBED AREAS OF THE DUPLEX LOTS (APN'S 34-83 & 34-90) BY FALL 2021 TO STABILIZE THE SITE AND PROVIDE PROTECTION FROM EROSION OVER WINTER MONTHS.
15. EXCAVATE AND CONSTRUCT FOUNDATIONS FOR DUPLEX BUILDINGS (APN'S 34-83 & 34-90) IN SPRING 2022.
16. CONSTRUCT DUPLEX STRUCTURES WITH ASSOCIATED UTILITY CONNECTIONS, GRADE SLOPES AND EXCAVATE CUT AREAS AT TOE OF SLOPES. BLEND ALL SLOPES INTO EXISTING TOPOGRAPHY AND LOAM AND SEED. ALL DISTURBED AREAS, SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH JUTE MESH.
17. COMPLETE FINE GRADING OF SHOULDERS AND PLACE PAVEMENT IN MISCELLANEOUS AREAS.
18. PLACE THE FINAL WEARING COURSE OF PAVEMENT.
20. REMOVE TEMPORARY EROSION CONTROL DEVICES ONCE ADEQUATE GROWTH IS ESTABLISHED. ADEQUATE GROWTH IS DEFINED AS VEGETATION COVERING 75% OR MORE OF THE GROUND SURFACE.

**GENERAL CONSTRUCTION NOTES**

1. STORMWATER SUBSURFACE INFILTRATION SYSTEMS WILL BE DELINEATED BY STAKES WITH CAUTION TAPE AND/OR CONSTRUCTION FENCING PRIOR TO CONSTRUCTION TO PROTECT FROM SOIL COMPACTION. NO HEAVY EQUIPMENT WILL BE ALLOWED IN THIS AREA. CARE SHOULD BE TAKEN TO PREVENT SEDIMENT INTRUSION INTO THE SUBSURFACE INFILTRATION SYSTEM AND CLOSED DRAINAGE SYSTEM DURING CONSTRUCTION AND EXCAVATION.
2. EXISTING AND EXPOSED STOCKPILE MATERIAL WILL BE STORED IN SEPARATE STOCKPILE AREAS. THE CONTRACTOR MAY ADJUST THE SIZE AND LOCATION OF STOCKPILE AREAS AS NEEDED.
3. STUMPS, LOGS AND DEBRIS HINDERING CONSTRUCTION ACTIVITY SHALL BE REMOVED PRIOR TO CONSTRUCTION AND DISPOSED OF IN ACCORDANCE WITH LOCAL AND STATE REGULATIONS.
4. UNSUITABLE MATERIAL INCLUDING THE EXISTING STOCKPILE WILL BE REMOVED AND/OR RELOCATED FROM SITE PRIOR TO CONSTRUCTION OF INDIVIDUAL LOTS.

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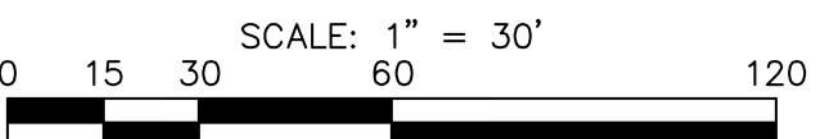
<b>APPLICANT:</b> <b>GASPAR INVESTMENT INC.</b> 265 WILLIS AVE. MEDFORD, MASSACHUSETTS 02155				<b>PERMIT PLAN SET</b>			
<b>PROFESSIONAL ENGINEER:</b> 							
<b>DRAWN BY:</b> ESS				<b>REV</b>			
<b>DESIGNED BY:</b> ESS				<b>DATE</b>			
<b>CHECKED BY:</b> BCM				<b>DESCRIPTION</b>			
<b>APPROVED BY:</b> BCM				<b>APP</b>			
<b>DATE:</b> OCTOBER 23, 2020				<b>ESS BCM</b>			
<b>SCALE:</b> 1" = 30'				<b>WIDENED ROADWAY</b>			
<b>PROJECT NO.:</b> 220-163				<b>DRAINAGE REVISION</b>			
<b>DWG. TITLE:</b>				<b>ESS BCM</b>			
<b>EROSION AND SEDIMENT CONTROL PLAN</b>							
<b>DWG. NO:</b>							
<b>ESC-1</b>							





- ABBREVIATIONS**
- FFE FIRST FLOOR ELEVATION
  - BIT CONC. BITUMINOUS CONCRETE PAVEMENT
  - CBM CONC. CEMENT CONCRETE
  - C.I. CAST IRON
  - C.L. CEMENT LINED
  - EP EDGE OF PAVEMENT
  - BC BITUMINOUS CONCRETE CURB
  - (AM) AS MEASURED
  - RET WALL RETAINING WALL
  - CONC. CONCRETE
  - ROP REINFORCED CONCRETE PIPE
  - VCC VERTICAL GRANITE CURB
  - ETW EDGE OF TRAVEL WAY
  - MTL METAL BERM
  - VCC VERTICAL CONCRETE CURB
  - CMP CORRUGATED METAL PIPE
  - LSA LANDSCAPED AREA
  - TRANS. TRANSFORMER
  - GEN. GENERATOR
  - HOPE HIGH-DENSITY POLYETHYLENE

- LEGEND**
- SURVEY SYMBOLS**
- REBAR
  - ANGLE IRON
  - CONCRETE BOUND WITH DRILL HOLE
  - STONE BOUND
  - STONE BOUND
- UTILITY SYMBOLS**
- CHIMNEY
  - ELECTRIC HAND HOLE
  - GUY POLE
  - GUY WIRE
  - HVAC UNIT
  - BUILDING LIGHT W/MAST
  - BUILDING LIGHT
  - TRANSFORMER
  - WATER GATE
  - EXHAUST VENT
  - AIR VENT
  - DRAINAGE SUMP
  - ELECTRIC MANHOLE
  - SEWER MANHOLE
  - DRAIN MANHOLE
  - TELEPHONE MANHOLE
  - DRAINAGE CATCH BASIN
  - DOOR WAY THRESHOLD
  - HYDRANT
  - POST INDICATOR VALVE
  - UTILITY POLE
  - YARD LIGHT
  - RIP RAP
  - BOLLARD
  - SIGN
  - FIRE ALARM
  - DECIDUOUS TREE
  - CONIFEROUS TREE
- LINE DESIGNATORS**
- WATER MAIN
  - OVERHEAD WIRES
  - GAS LINE
  - WATER SERVICE
  - UNDERGROUND ELECTRIC
  - STORM DRAIN LINE
  - SANITARY SEWER LINE
  - DRAINAGE SWALE
  - CHAIN LINK FENCE



Proposed Native Plant Legend				
Symbol	Qty	Common	Botanical	Size
	7	Black Chokeberry	Aronia melanocarpa	1.5 to 2 ft. high
	5	Eastern Red Cedar	Juniperus virginiana	6 to 7 ft. high
	11	Highbush Blueberry	Vaccinium corymbosum	1.5 to 2 ft. high
	11	Inkberry	Ilex glabra	1.5 to 2 ft. high
	8	Meadowsweet	Spiraea latifolia	1.5 to 2 ft. high
	7	Red Maple	Acer Rubrum	1 to 1.5" caliper
	3	Red Oak	Quercus rubra	1 to 1.5" caliper
	5	Shadbush	Amelanchier canadensis	1.5 to 2 ft. high
	10	Sweet Fern	Comptonia peregrina	1 to 2 ft. high
	7	Sweet Gum	Liquidambar Styraciflua	1 to 1.5" caliper
	21	Sweet Pepperbush	Clethra alnifolia	1.5 to 2 ft. high
	6	Witch Hazel	Hamamelis virginiana	1.5 to 2 ft. high

PROPOSED SEED MIX WITHIN THE 100 FOOT BUFFER ZONE TO CONSIST OF THE SEED MIX PROFILE BELOW WHERE EVER



SHOWY NORTHEAST NATIVE WILDLIFE & GRASS SEED MIX

**General Product Information:**

The native wildflowers and some grasses provide a gorgeous display of color from spring to fall. Designed for upland sites with well-drained soils and full sun to semi-shaded areas; ideal for attracting butterflies and hummingbirds. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

**Item Number:** ERNMX-153  
**Product Categories:**  
Pollinator Favorites, Uplands & Meadows  
**Height:** 1.0 - 5.0 Ft  
**Seeding Rate:** 20 lbs/acre with 30 lbs/acre of a cover crop. For a cover crop use either grain oats (1 Jan to 31 Jul) or grain rye (1 Aug to 31 Dec).

**SITE DEVELOPMENT PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87, 88, 89 & 90

DYER STREET

ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:

APPLICANT:

GASPAR INVESTMENT INC.

265 WILLIS AVE.

MEDFORD, MASSACHUSETTS 02155

DRAWN BY: ESS

DESIGNED BY: ESS

CHECKED BY: BCM

APPROVED BY: BCM

DATE: OCTOBER 23, 2020

SCALE: 1" = 30'

PROJECT NO.: 220-163

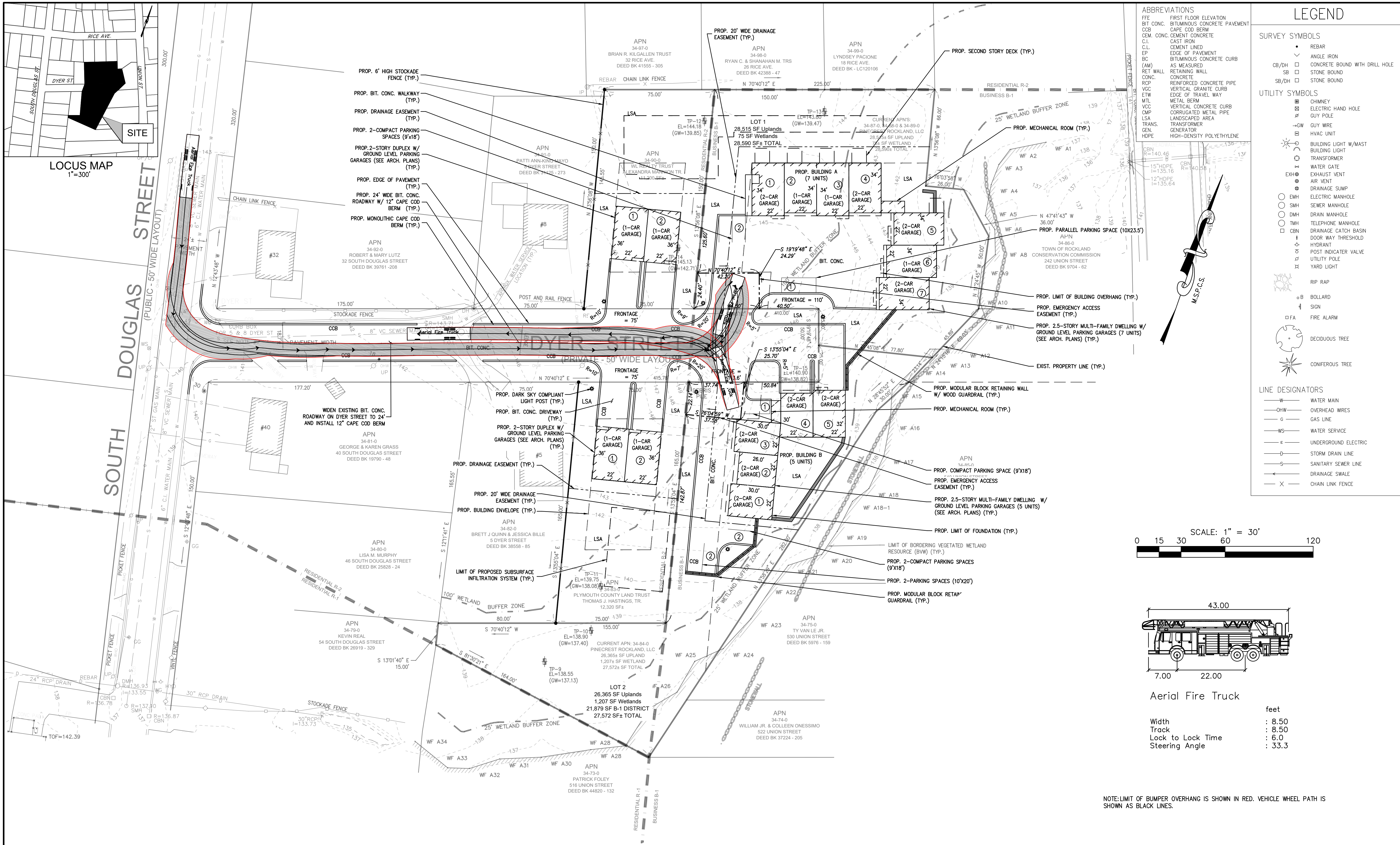
DWG. TITLE:

LANDSCAPING PLAN

DWG. NO.: LA-1

PERMIT PLAN SET



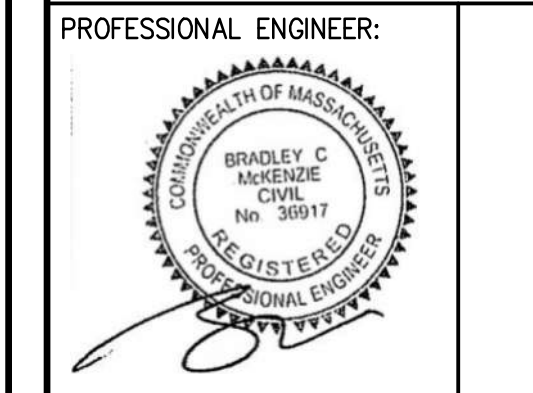


BY	APP	DESCRIPTION	DATE	REV
ESS	BCM	WIDEN ROADWAY	3/15/21	1
ESS	BCM	DRAINAGE REVISION	6/7/21	2



**SITE DEVELOPMENT PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87, 88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS



APPLICANT:  
**GASPAR INVESTMENT INC.**  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	1"=30'
PROJECT NO.:	220-163
DWG. TITLE:	

**FIRE TRUCK TURNING PLAN**

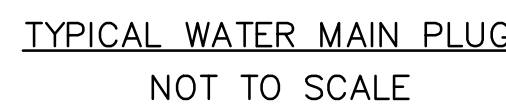
DWG. NO.: **T-1**





- 
- SEE NOTE 4
- TOP SLAB
- MONOLITHIC BASE SECTION
- 24" SQUARE
- 30" (MIN.)
- SEE NOTE 3
- INVERT
- HOOD
- 4" MIN.
- 48" DIA. (MIN.)
- 12" TYP.
- SHED STONE (NOT M2.01.4, SHED STONE)
- COMPACTED SUBGRADE

SHALLOW CATCH BASIN  
SCALE: N.T.S.



WATER MAIN DIAMETER	MAXIMUM TAP DIAMETER
4"	1/2"
6"	3/4"
8"	3/4"
12"	1"

NOTE:  
WHERE NO PAVED SIDEWALKS EXIST, CURB STOPS AND  
VALVE BOXES SHALL BE INSTALLED IN THE STREET.

\* WHERE THE SIZE OF THE CONNECTION EXCEEDS THAT GIVEN IN THE TABLE A BOSS SHALL BE PROVIDED OR THE TAP SHALL BE MADE BY MEANS OF MULTIPLE CORP. STOPS AND BRANCH FITTINGS, TAPPED TEE, OR TAPPED SADDLE.

WATER SERVICE CONNECTION (BUILDINGS A & B)  
N.T.S.

## GENERAL NOTES

ALL WATER MAIN MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE ABINGTON ROCKLAND JOINT WATER WORKS DEPARTMENT RULES AND REGULATIONS.

1. IF SHEETING IS USED, IT SHALL BE CUT OFF NO MORE THAN 12" ABOVE TOP OF PIPE.
2. ALL PIPES SHALL BE PRESSURE TESTED AT 200 PSI WORKING PRESSURE FOR A MINIMUM DURATION OF TWO HOUR.
3. WATER SYSTEM IS TO BE DISINFECTED TO 50 P.P.M. AVAILABLE CHLORINE AND AFTER 24 HOURS TO 25 P.P.M. OR AS REQUIRED BY ABINGTON ROCKLAND JOINT WATER WORKS SUPERINTENDENT/ENGINEER.
4. WATER PIPE IS TO BE CEMENT LINED DUCTILE IRON "TYTON" OR EQUAL TYPE JOINT, CONFORMING TO A.N.S.I./A.W.W.A. C150/A21.50, CLASS 52, AS APPROVED BY THE ABINGTON ROCKLAND JOINT WATER WORKS SUPERINTENDENT/ENGINEER.
5. ALL PIPING SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH A.W.W.A. STANDARDS PRIOR TO PAVING IF PAVING ABOVE TRENCH IS REQUIRED.
6. BACKFILL IS TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY BY AASHTO T-180 D.
7. ALL WATER PIPE SHALL BE LAID WITH A MINIMUM OF 5 FEET OF COVER OF APPROVED MATERIALS.
8. ALL HYDRANT LOCATIONS ARE TO BE APPROVED BY FIRE DEPARTMENT.
9. RESULTS FROM PRESSURE TESTING AND DISINFECTION SHALL BE FURNISHED TO THE DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO WATER BEING TURNED ON.
10. ALL WORK SHALL BE IN CONFORMANCE WITH ABINGTON ROCKLAND JOINT WATER WORKS DEPARTMENT STANDARDS.
11. ALL PERMITS REQUIRED FOR STREET OPENINGS AND WATER MAIN TAPPING MUST BE OBTAINED.
12. NO WATER WILL BE TURNED ON IN THE PROJECT WITHOUT ABINGTON ROCKLAND JOINT WATER WORKS DEPARTMENT APPROVAL.

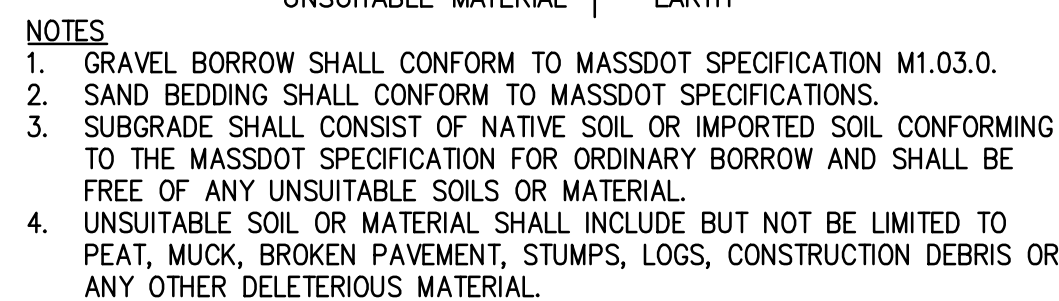
THRUST BLOCK BEARING AREAS  
FOR WATER PIPE

TABLE OF BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS*			
SIZE OF MAIN (IN.)	90° BEND	TEES AND PLUGS	45° BEND
6	4	2.5	2
8	6	4	3
12	12	9	7
16	21	16	12

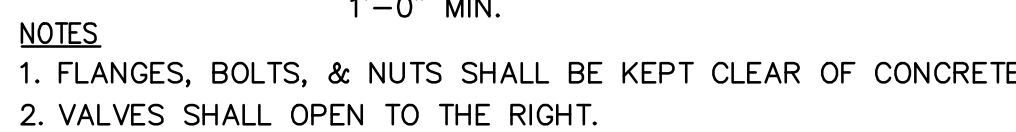
\* TYPE OF SOIL IS MEDIUM CLAYEY, 6 OR MORE BLOWS PER FOOT, OR LOOSE GRANULAR, 9 OR MORE BLOWS PER FOOT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.

NOTES:

1. FOR FITTINGS WITH LESS THAN 45 DEGREES DEFLECTION, USE BEARING AREAS FOR 45 DEGREES BEND.
2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 P.S.F. AND INTERNAL WATER PRESSURE OF 150 P.S.I.G. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DEDICATED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
3. THE CONTRACTOR SHALL SUBMIT 2 WEEKS IN ADVANCE OF PLACEMENT, WORKING DRAWINGS FOR EACH THRUST BLOCK TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
4. ALL TEES, GATE VALVES, HYDRANTS AND FITTINGS SHALL BE MECHANICAL JOINTS WITH MEGA-LUGS.
5. THRUST BLOCKS SHALL BE BARREL BLOCKS.



TYPICAL WATER TRENCH DETAIL  
SCALE: N.T.S.



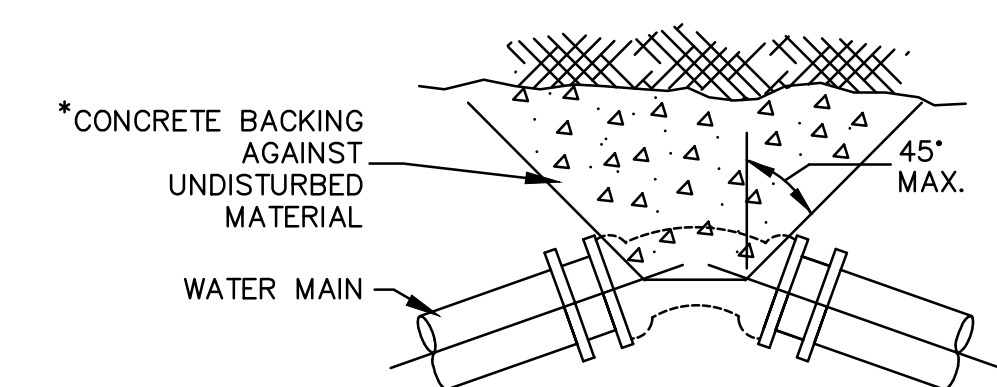
SIZE OF GATE VALVE	ANCHOR BLOCK DIMENSIONS (FT.)		
	A	B	
		200 PSI TEST	250 PSI TEST
3"	1.5	1.5	2.0
4"	2.0	1.5	2.0
6"	3.0	1.5	2.0
8"	3.0	1.5	2.0
10"	3.0	2.0	2.5
12"	3.5	2.0	2.5

WATER GATE DETAIL  
NOT TO SCALE



## TYPICAL WATER MAIN THRUST BLOCK DETAILS

NOT TO SCALE



\* SEE THRUST BLOCK BEARING AREAS TABLE FOR THE AREA OF CONCRETE REQUIRED.

REV	DATE	DESCRIPTION	BY	APP
1	3/15/21	WIDENED ROADWAY	ESS	BCM
2	6/7/21	DRAINAGE REVISION	ESS	BCM
3	6/29/21	DRAINAGE REVISION	ESS	BCM



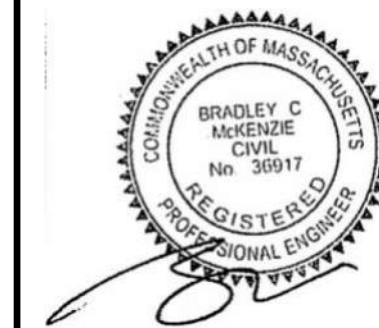
# SITE DEVELOPMENT PLAN

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90

88, 89 &amp; 90

DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:



APPLICANT:  
GASPAR INVESTMENT INC.  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	
PROJECT NO.:	220-163
DWG. TITLE:	

## CONSTRUCTION DETAILS

DWG. NO:

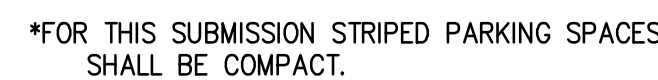
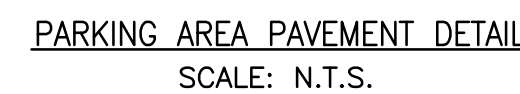
D-1

PERMIT PLAN SET





Parts List			SIZE (in)
ITEM	QTY.	DESCRIPTION	
1	2	I.D. CONCRETE MANHOLE	48
2	2	INLET CHUTE (w/ FLOATABLES TRAP)	
3	2	OUTLET CHUTE	
4	2	INLET PIPE (BY OTHERS)	12
5	2	OUTLET PIPE (BY OTHERS)	12
6	2	HIGH FLOW BYPASS	
7	2	FRAME AND COVER (OR GRATE)	



**McKENZIE**  
ENGINEERING GROUP

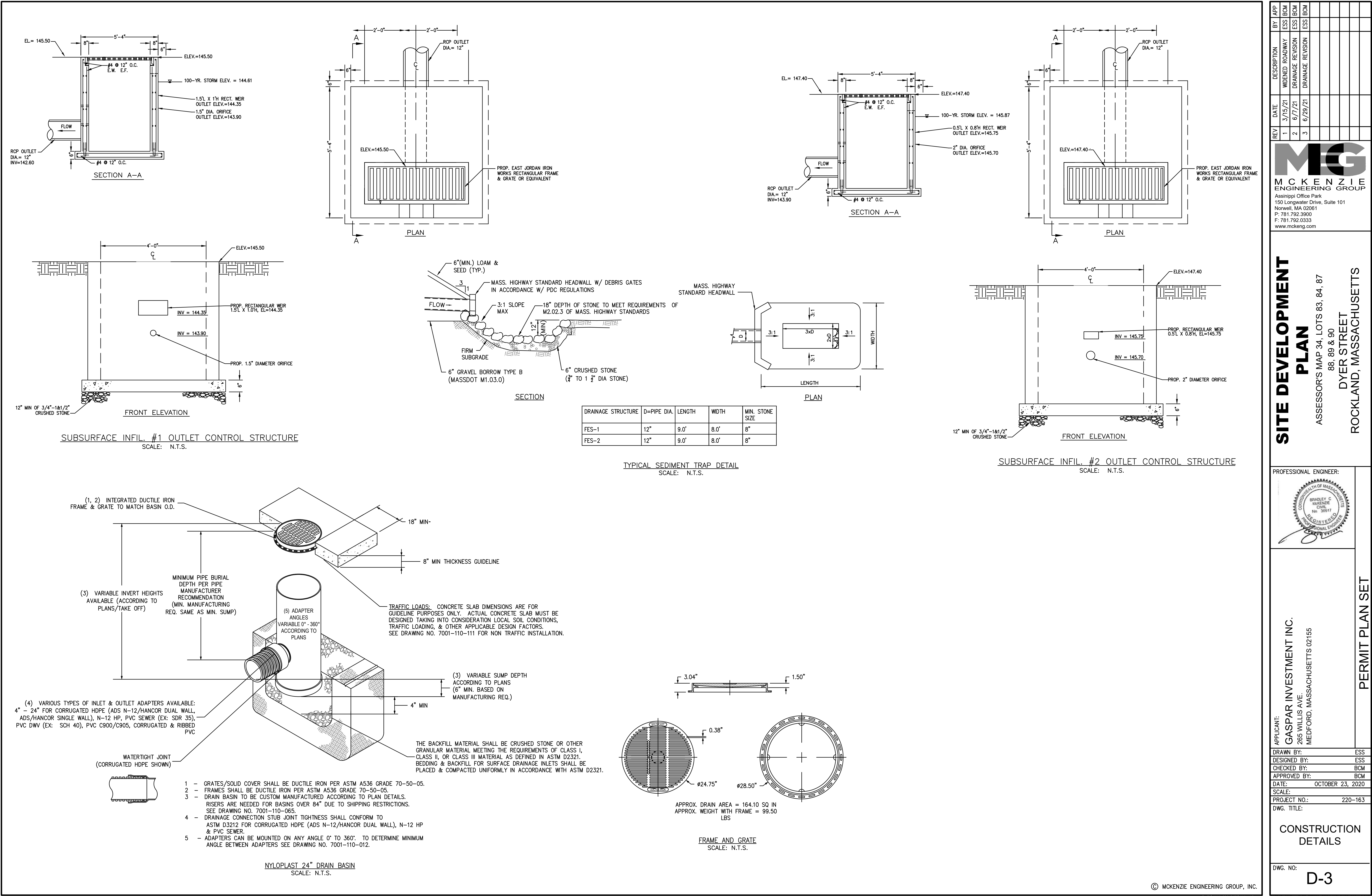
Assinippi Office Park  
150 Longwater Drive, Suite 101  
Norwell, MA 02061  
P: 781.792.3900  
F: 781.792.0333  
[www.mckeng.com](http://www.mckeng.com)

COMMONWEALTH OF MASSACHUSETTS  
BRADLEY C. MCKENZIE  
CIVIL  
No. 30917  
REGISTERED  
PROFESSIONAL ENGINEER

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	
PROJECT NO.:	220-163
DWG. TITLE:	

DWG. NO:





BY APP  
ESS BCM  
ESS BCM  
ESS BCM

DESCRIPTION  
WIDENED ROADWAY  
DRAINAGE REVISION  
DRAINAGE REVISION

DATE  
3/15/21  
6/7/21  
6/29/21

REV  
1  
2  
3

**MEG**  
MCKENZIE  
ENGINEERING GROUP

Assinippi Office Park  
150 Longwater Drive, Suite 101  
Norwell, MA 02061  
P: 781.792.3900  
F: 781.792.0333  
www.mckeng.com

**SITE DEVELOPMENT  
PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:

APPLICANT:  
**GASPAR INVESTMENT INC.**  
265 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

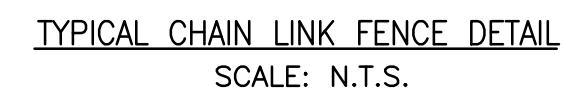
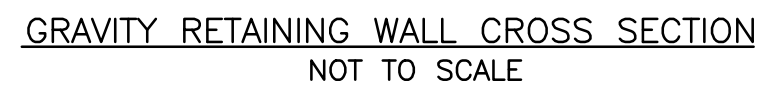
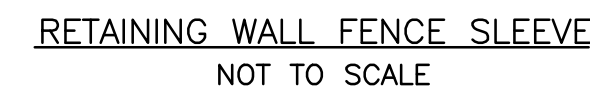
PERMIT PLAN SET

APPROVED BY: BCM  
DATE: OCTOBER 23, 2020  
PROJECT NO.: 220-163  
DWG. TITLE:  
**CONSTRUCTION  
DETAILS**

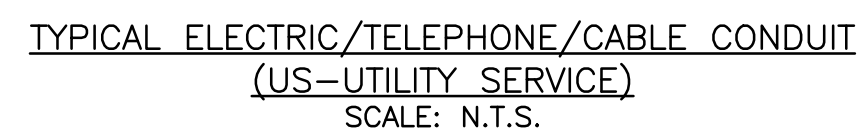
DWG. NO:

**D-3**





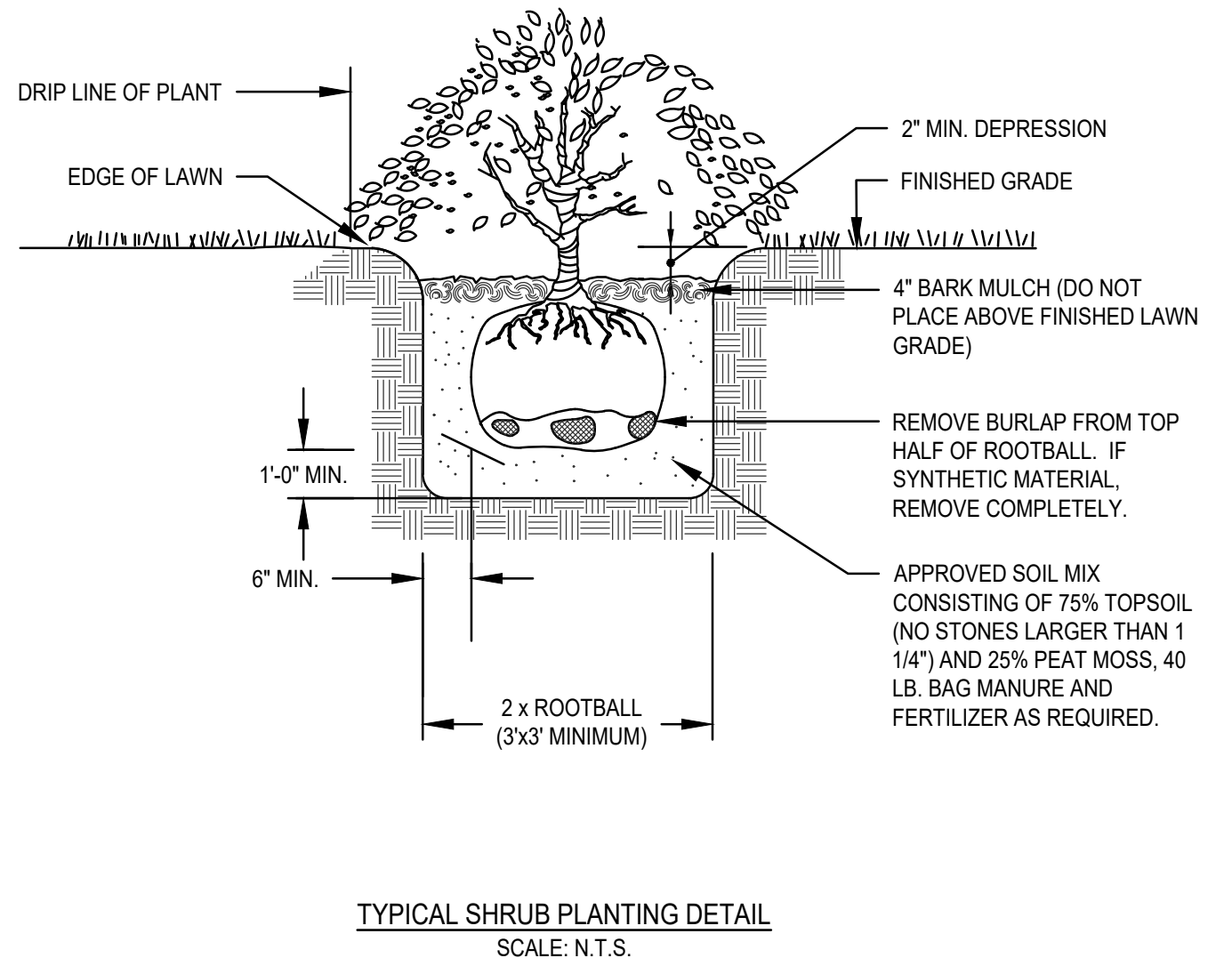
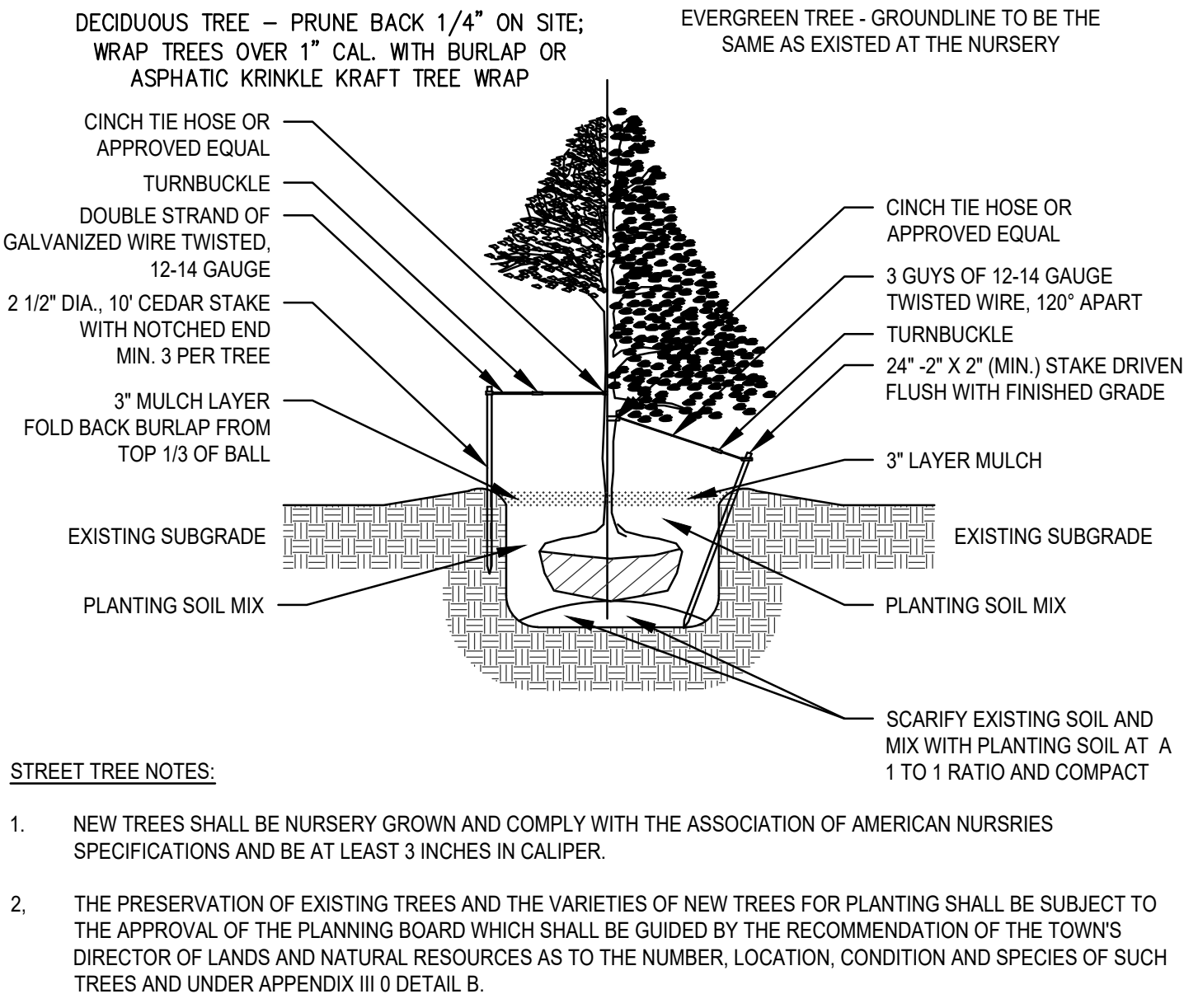
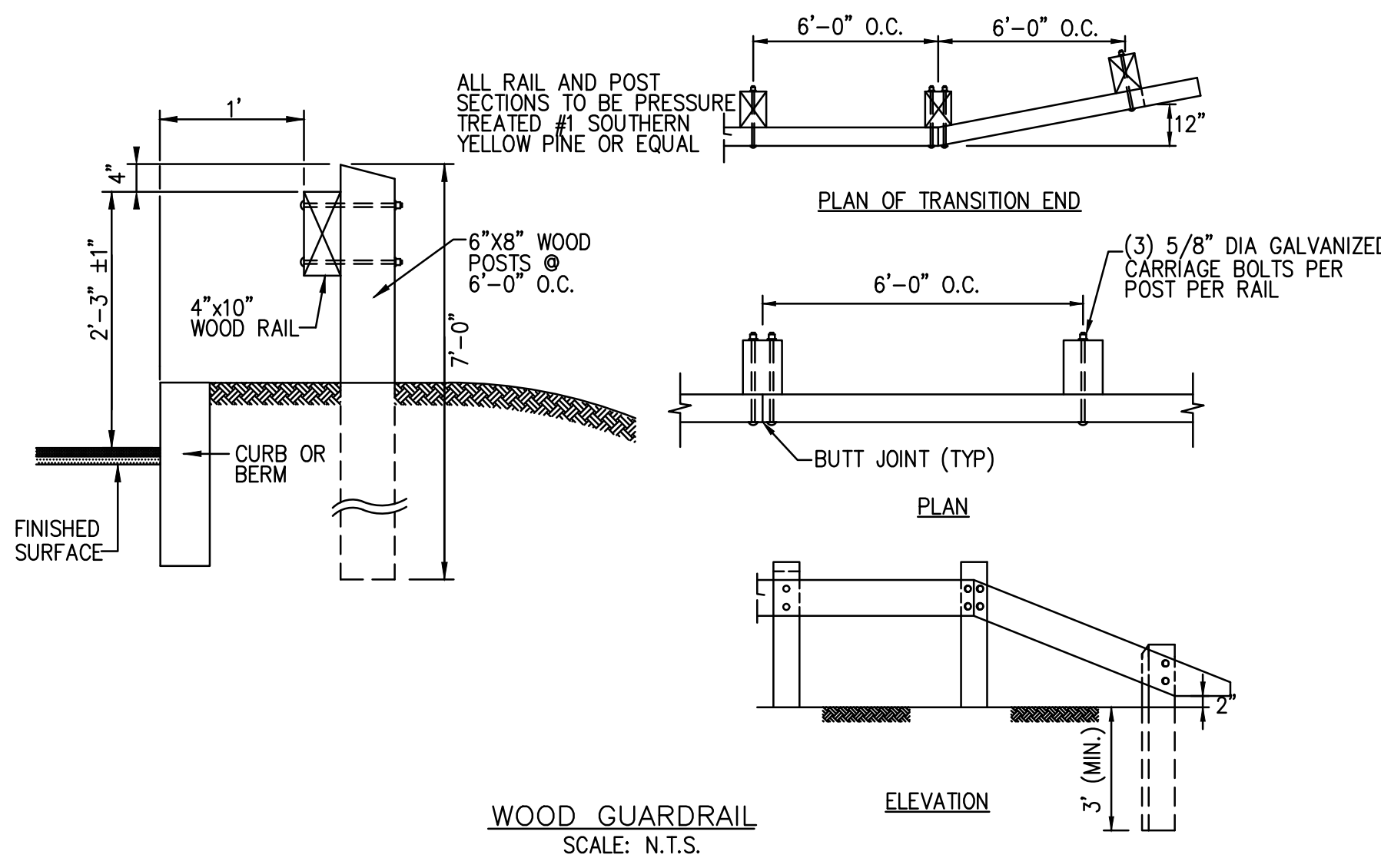
CONCRETE TO BE 4,000  
P.S.I. FIBER REINFORCED.



D-4

PERMIT PLAN SET





SEEDING SPECIFICATIONS

SEEDING RECOMMENDATIONS

- 1. SEEDBED PREPARATION
A. SURFACE AND SEEPAGE WATER SHOULD BE DRAINED OR DIVERTED FROM THE SITE TO PREVENT DROWNING OR WINTER KILLING OF THE PLANTS.
B. STONES LARGER THAN FOUR INCHES AND TRASH SHOULD BE REMOVED BECAUSE THEY INTERFERE WITH SEEDING AND FUTURE MAINTENANCE OF THE AREA.
C. REFER TO SEEDING RATES AND SEEDING GUIDES FOR APPROPRIATE SEED MIXTURES AND RATES OF SEEDING.
- 2. ESTABLISHING A STAND
A. LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT THE TIME OF SEEDING AND INCORPORATED INTO THE SOIL.
B. SEED SHOULD BE SPREAD UNIFORMLY BY THE METHOD MOST APPROPRIATE FOR THE SITE.
C. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING TO EARLY OCTOBER.
- 3. MULCH
A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER SEEDING.
B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES AS SPECIFIED IN THE "BEST MANAGEMENT PRACTICES OPERATION AND MAINTENANCE PLAN"
- 4. MAINTENANCE TO ESTABLISH A STAND
A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS.
C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION.

SEEDING RATES

POUND / ACRE POUNDS / 1,000 S.F.

A. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
REDTOP	2	0.05
TOTAL	42	0.95
B. TALL FESCUE	15	0.35
CREeping RED FESCUE	10	0.25
BIRDSFOOT TREFOIL	15	0.35
TOTAL	40	0.95
C. TALL FESCUE	20	0.45
CREeping RED FESCUE	20	0.45
BIRDSFOOT TREFOIL	8	0.20
TOTAL	48	1.10
D. BIRDSFOOT TREFOIL	10	0.25
REDTOP	5	0.10
REED CANARY GRASS	15	0.35
TOTAL	30	0.70
E. TALL FESCUE	20	0.45
FLATPEA	30	0.75
TOTAL	50	1.20
F. CREEPING RED FESCUE 1/	85	2.00
KENTUCKY BLUEGRASS 1/	85	2.00
TOTAL	170	4.00
G. TALL FESCUE 1/	150	3.60

TEMPORARY SEEDING RATES

H. WINTER RYE	112	2.50
OATS	80	2.00
ANNUAL RYEGRASS	40	1.00
TOTAL	232	5.50

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

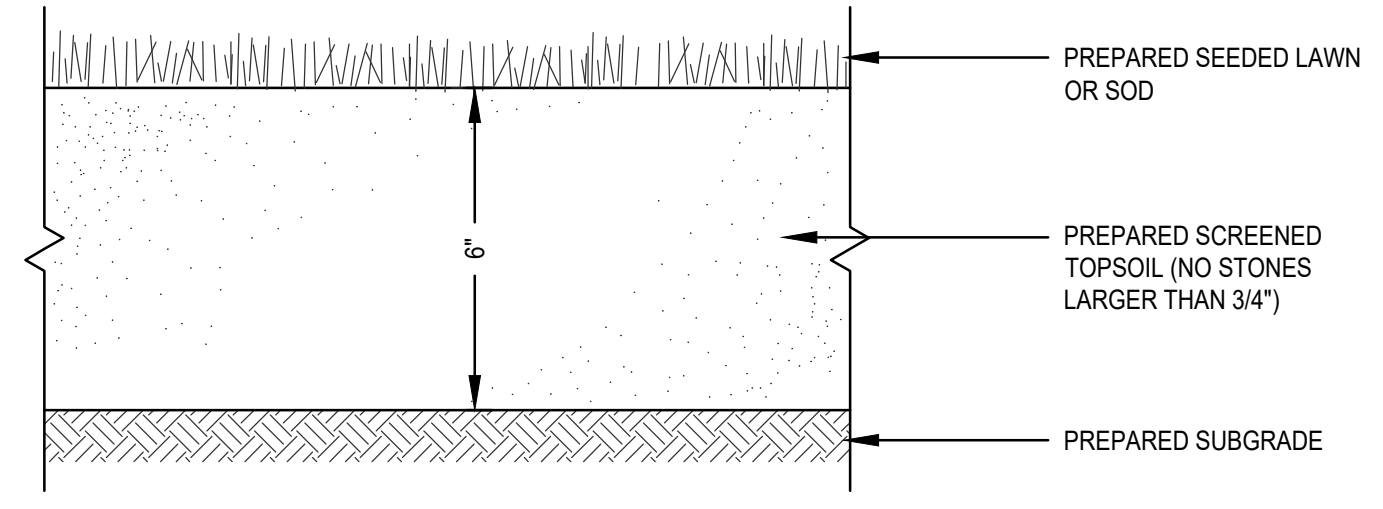
SEEDING GUIDE

USE	SEEDING MIXTURE 1/
STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS	E
WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER	D
LAWN AREAS	F

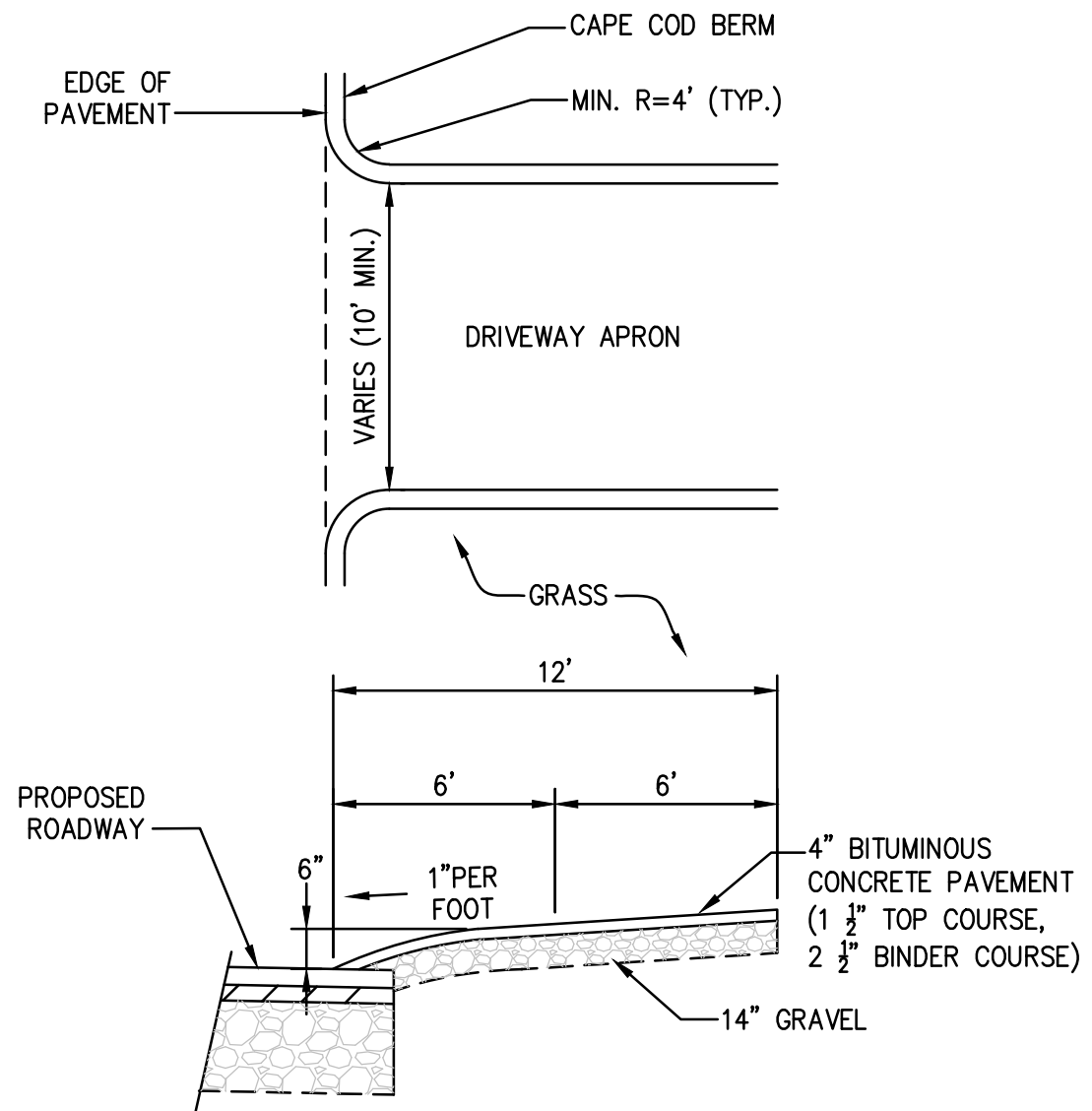
NOTES:

- 1. TOP OF LOAM (TOPSOIL) IS FINISHED GRADE.
- 2. TOPSOIL SHALL CONTAIN BETWEEN 5% AND 12% ORGANIC MATTER AND SHALL HAVE A MAXIMUM STONE SIZE OF 3/4" AND SHALL CONFORM TO THE FOLLOWING GRADATION:

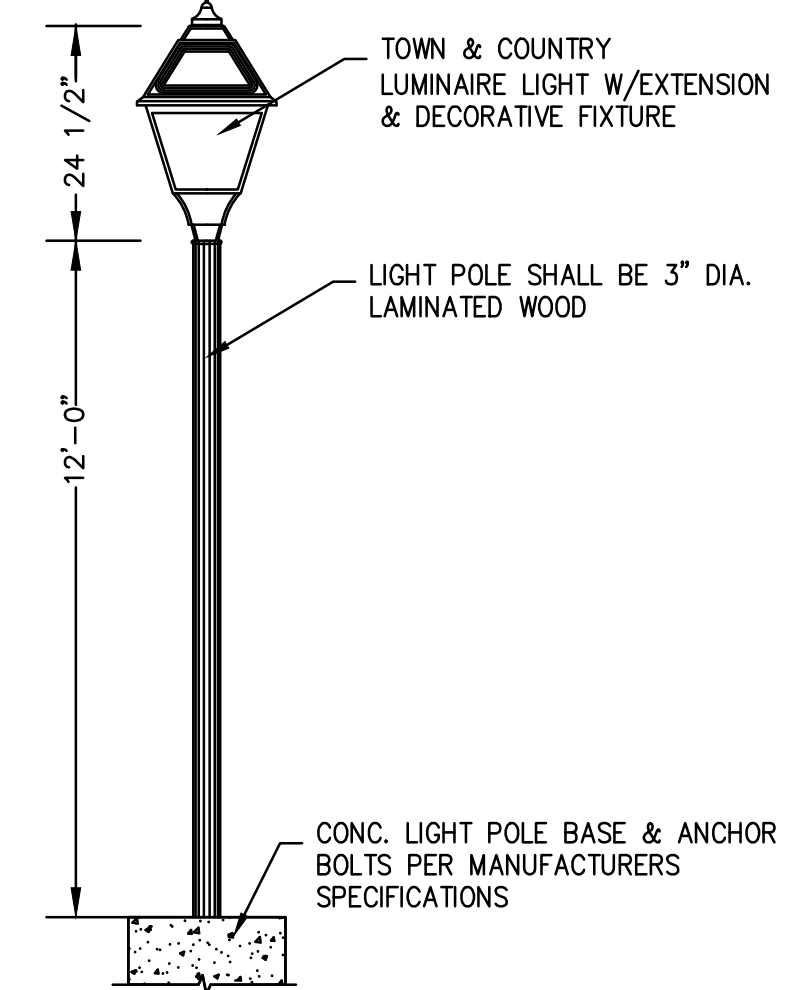
SIEVE	% PASSING
1 1/4 INCH	100
No.4	85-100
No.40	60-85
No.100	38-60
No.200	28-40



SEEDING OR SODDED LAWN DETAIL SCALE: N.T.S.



DRIVEWAY APRON DETAIL SCALE: NOT TO SCALE

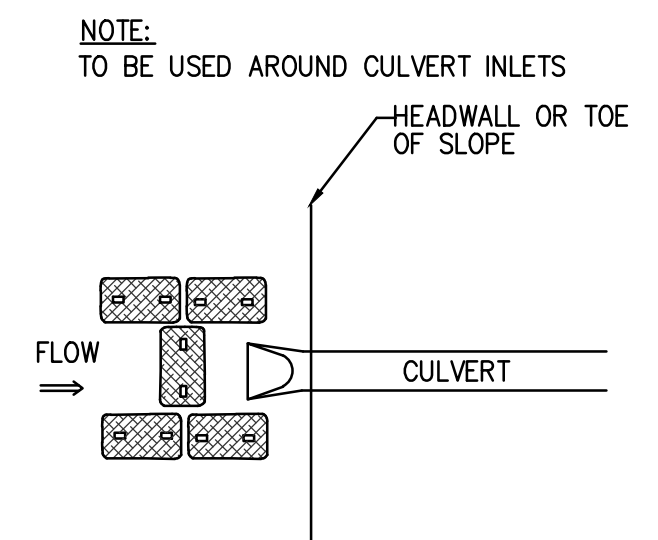
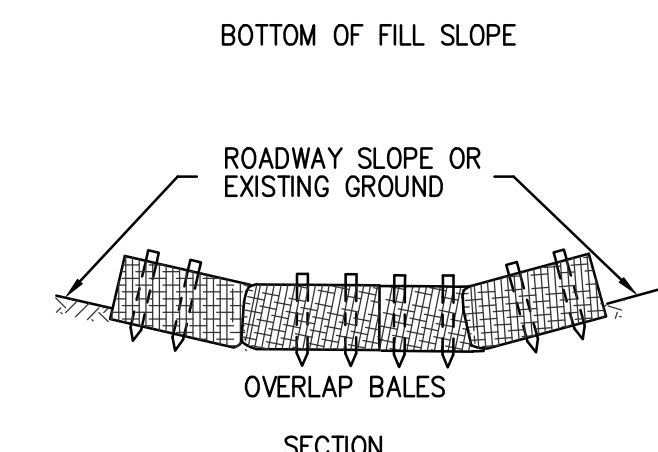
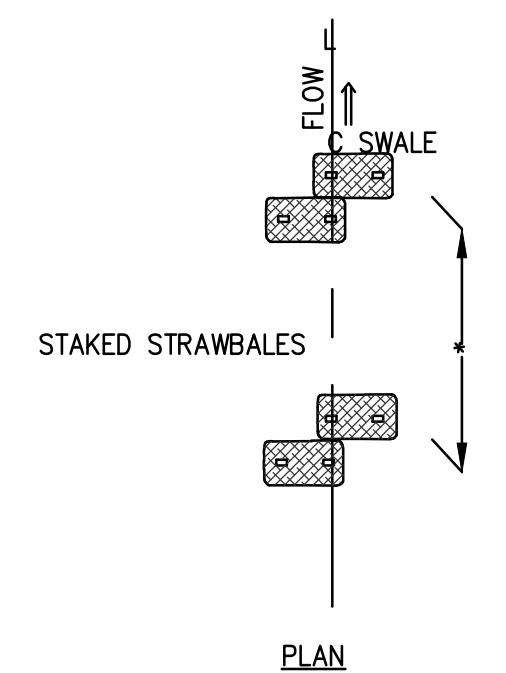
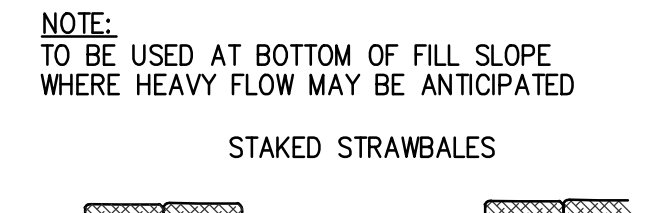
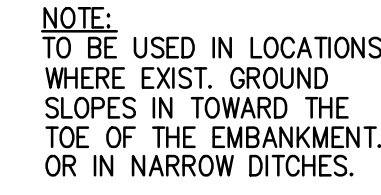
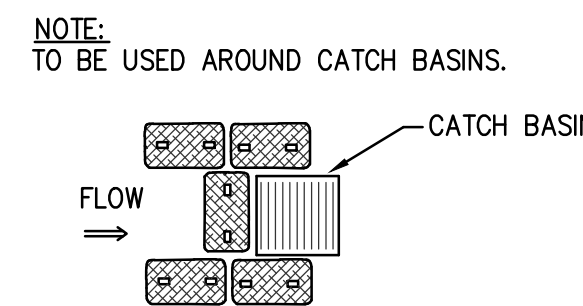
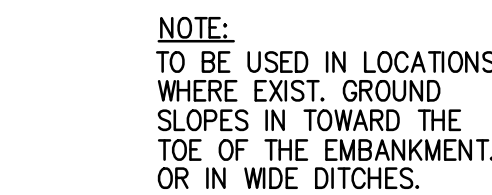


TYPICAL LIGHT POST DETAIL SCALE: N.T.S.

NOTE: ALL LIGHT BULBS SHALL BE DARK-SKY COMPLIANT AND REFLECTED DOWN TO PREVENT LIGHT POLLUTION.



1. WIDELY ACCEPTED PRACTICES FOR REDUCING EROSION AND SEDIMENTATION WILL BE EMPLOYED IN THE DEVELOPMENT OF THIS SITE.
2. THE DEVELOPMENT OF THE SITE HAS BEEN PLANNED TO ENHANCE THE EXISTING TOPOGRAPHY AND VEGETATIVE COVER. ALL NATURAL DRAINAGE PATTERNS OF THE SITE HAVE BEEN MAINTAINED.
3. STEEP SLOPES, WHERE POSSIBLE, WILL NOT BE DISTURBED.
4. NATURAL WATERWAYS WILL BE PRESERVED AND PROTECTED, AND EXISTING VEGETATION WILL BE RETAINED AND PROTECTED TO THE EXTENT POSSIBLE.
5. THE ROADWAY CONFORMS TO EXISTING LAND CONTOURS WHERE PRACTICAL.
6. THE CONTRACTOR SHALL MINIMIZE THE AREA OF DISTURBED LAND TO THE EXTENT FEASIBLE.
7. SEDIMENT CONTROL MEASURES WILL BE APPLIED TO CONTROL ANY SEDIMENTS THAT MAY BE PRACTICED AS A RESULT OF SITE CONSTRUCTION ACTIVITIES. EROSION AND DEPOSITION OF SEDIMENT WILL BE CLOSELY MONITORED DURING CONSTRUCTION.
8. TEMPORARY EROSION CONTROL MEASURES WILL INCLUDE, BUT NOT BE LIMITED TO, STRAWBALE CHECK DAMS, SEDIMENT FOREBAYS, STABILIZED CONSTRUCTION ENTRANCES, FILTER FABRIC SILT FENCES, SEEDING AND MULCHING, AND SEEDED FILTER STRIPS.
9. TOPSOIL STRIPPED FROM CUT AND FILL AREAS WILL BE STOCKPILED FOR LOAMING AND SEEDING AT LATER CONSTRUCTION STAGES. THE STOCKPILES SHALL BE LOCATED SO AS TO ACT AS TEMPORARY DIVERSIONS, GENERALLY ON THE UPHILL SLOPE.
10. ALL CUT AREAS LOCATED AT TOES OF SLOPES AND DITCHES THAT HAVE GRADES EXCEEDING 5% SHALL BE STABILIZED WITH RIP-RAP. THE RIP-RAP SHALL CONSIST OF 50% STONES GREATER THAN 6" IN SIZE. SWALES SHALL BE 6" IN DEPTH AND APPROXIMATELY 5' IN WIDTH. ALL SLOPES WILL BE BLENDED INTO THE EXISTING TOPOGRAPHY TO MINIMIZE IMPACT.
11. SITE DEVELOPMENT WILL NOT COMMENCE UNTIL ALL TEMPORARY EROSION CONTROL MEASURES ARE IN PLACE. THESE MEASURES SHALL BE EMPLOYED UNTIL FINAL PAVING AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED.
12. REFER TO CONSTRUCTION PHASE BEST MANAGEMENT PRACTICES AS SPECIFIED IN "BEST MANAGEMENT PRACTICES OPERATION AND MAINTENANCE PLAN" PREPARED BY MCKENZIE ENGINEERING GROUP, INC. FOR STRUCTURAL STABILIZATION AND DUST CONTROL EROSION AND SEDIMENTATION CONTROL MEASURES.
13. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.



STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK  
EROSION CONTROL BARRIERS, STABILIZED CONSTRUCTION ENTRANCES,  
TEMPORARY DIVERSION SWALES WITH CHECK DAMS, TEMPORARY SEDIMENT  
BASINS, AND INLET PROTECTION.

STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.

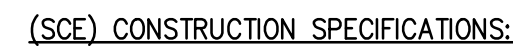
OPERATOR PERSONNEL AND/OR ITS CONSULTANTS MUST INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 1/2 INCH OR GREATER. THE INSPECTOR SHOULD REVIEW THE EROSION AND SEDIMENT CONTROLS WITH RESPECT TO THE FOLLOWING:

- A. WHETHER OR NOT THE BMP WAS INSTALLED/PERFORMED CORRECTLY.
- B. WHETHER OR NOT THERE HAS BEEN DAMAGE TO THE BMP SINCE IT WAS INSTALLED OR PERFORMED.
- C. WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE BMP.

THE INSPECTOR SHALL COMPLETE THE INSPECTION SCHEDULE AND EVALUATION CHECKLIST FOR FINDINGS AND SHOULD REQUEST THE REQUIRED MAINTENANCE OR REPAIR. THE CHECKLIST IS PROVIDED WITHIN THE OPERATION AND MAINTENANCE PLAN.

THE TEMPORARY SEDIMENT BASINS SHALL BE INSPECTED AND CLEANED IF REQUIRED PRIOR TO ANY PREDICTED LARGE STORM EVENT.

ALL SLOPES EXCEEDING 15% RESULTING FROM SITE GRADING SHALL BE BOTH COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED WITH A VEGETATED COVER SUFFICIENT TO PREVENT EROSION.

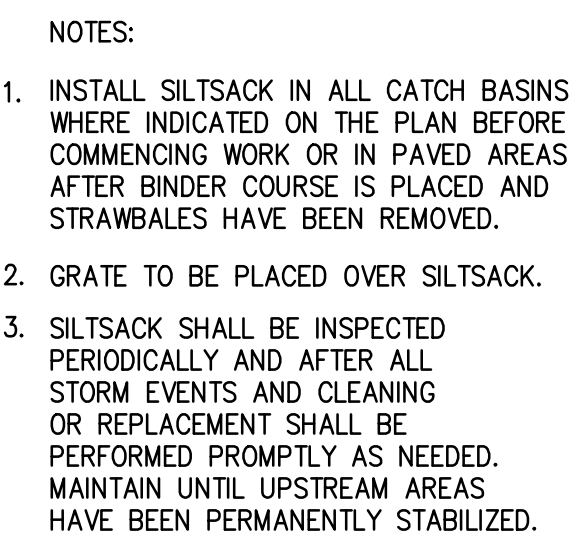


1. STONE FOR A STABILIZATION CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH STONE RECLAIMED STONE.
2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE RESIDENTIAL LOT A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN A FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
6. ALL SURFACE WATER THAT IS FLOWING TO OR DEVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOODING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.

Diagram illustrating a vertical sand filter system. The components labeled are:

- SUPPORT NET
- FILTER FABRIC
- POST
- BACKFILL
- NATIVE SOIL

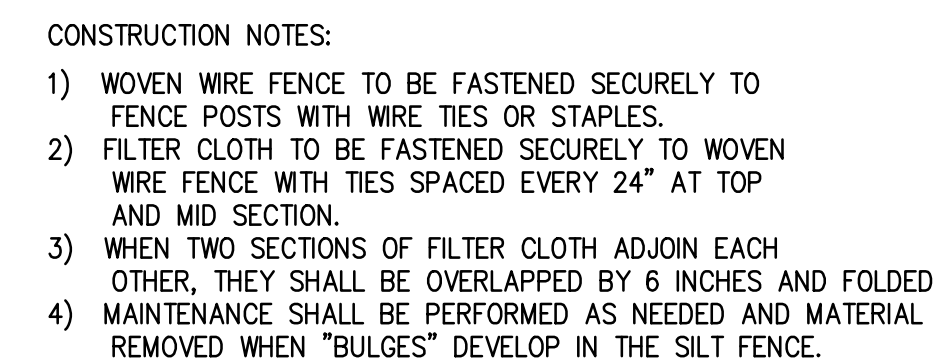
The diagram shows a vertical post with a support net and filter fabric, surrounded by backfill, and embedded in native soil.



1. INSTALL SILTSACK IN ALL CATCH BASINS WHERE INDICATED ON THE PLAN BEFORE COMMENCING WORK OR IN PAVED AREAS AFTER BINDER COURSE IS PLACED AND STRAWBALES HAVE BEEN REMOVED.
2. GRATE TO BE PLACED OVER SILTSACK.
3. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED, MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED



- 1) SILT SOCKS SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING OR LAPPING THE ADJACENT SECTIONS.
- 2) SILT SOCKS SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR RE-BARS DRIVEN EVERY 8 LF.
- 3) INSPECTION SHALL BE FREQUENT, AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS REQUIRED.
- 4) SILT SOCKS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.



© MCKENZIE ENGINEERING GROUP, INC.

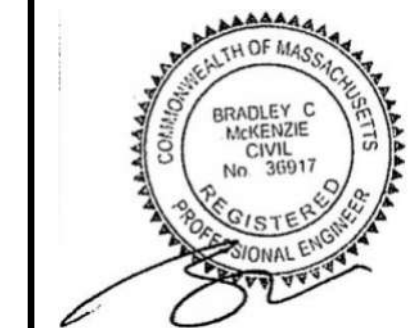
REV	DATE	DESCRIPTION	BY	APP
1	3/15/21	WIDENED ROADWAY	ESS	BOH
2	6/7/21	DRAINAGE REVISION	ESS	BOH
3	6/29/21	DRAINAGE REVISION	ESS	BOH



**SITE DEVELOPMENT  
PLAN**

ASSESSOR'S MAP 34, LOTS 83, 84, 87  
88, 89 & 90  
DYER STREET  
ROCKLAND, MASSACHUSETTS

PROFESSIONAL ENGINEER:



APPLICANT:  
GASPAR INVESTMENT INC.  
285 WILLIS AVE.  
MEDFORD, MASSACHUSETTS 02155

# PERMIT PLAN SET

DRAWN BY:	ESS
DESIGNED BY:	ESS
CHECKED BY:	BCM
APPROVED BY:	BCM
DATE:	OCTOBER 23, 2020
SCALE:	
PROJECT NO.:	220-163
DWG. TITLE:	

## CONSTRUCTION DETAILS

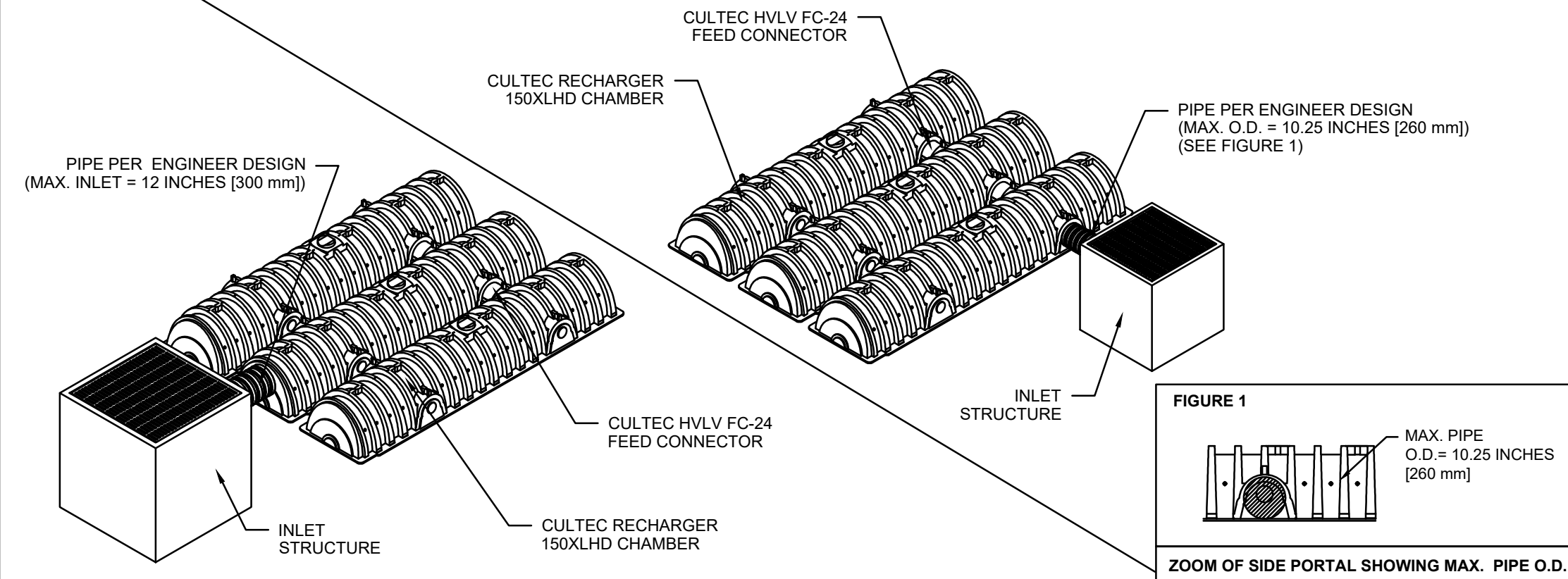
DWG. NO: **D-6**



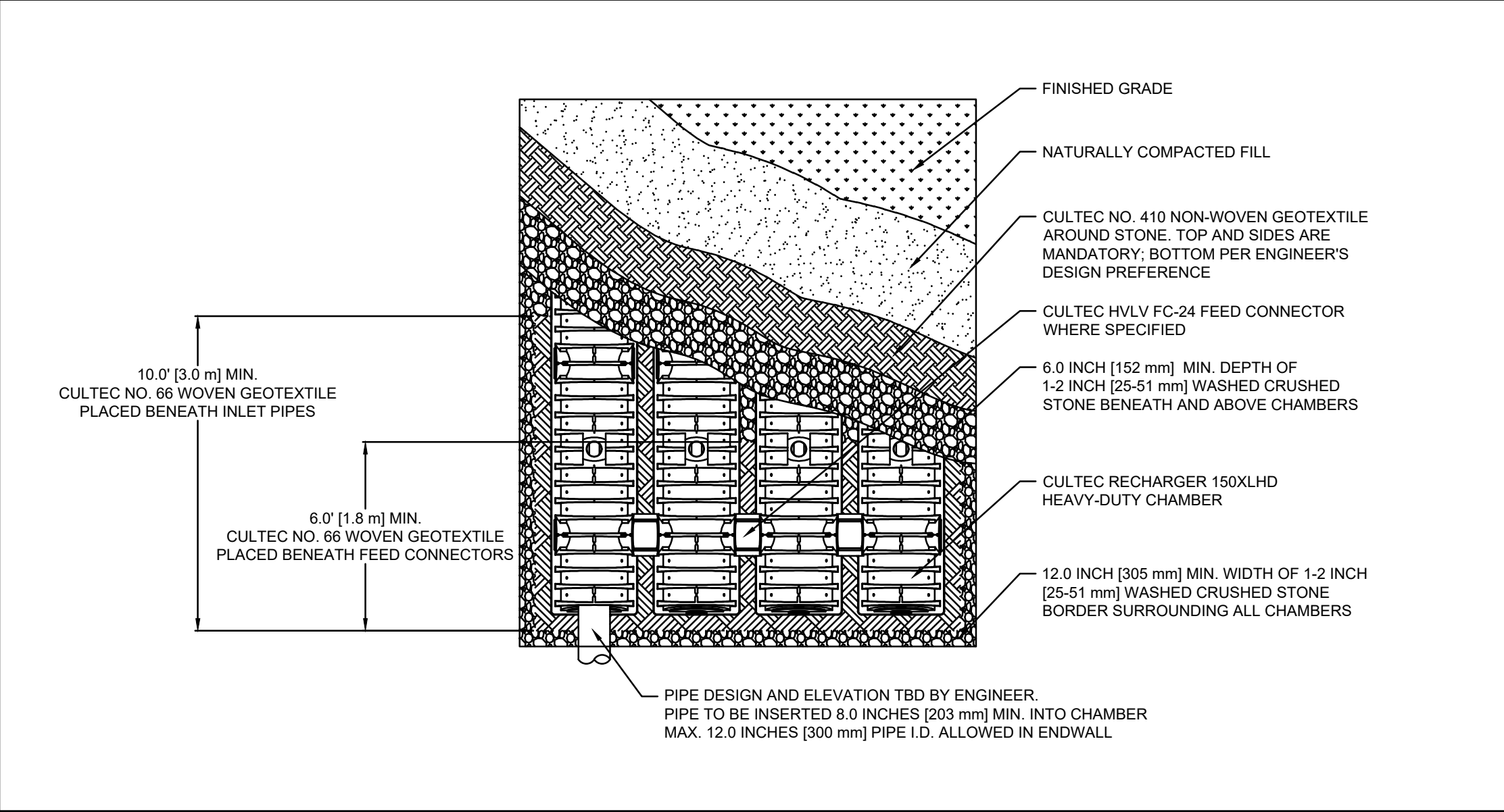
CULTEC RECHARGER® 150XLHD SPECIFICATIONS

- GENERAL**  
CULTEC RECHARGER® 150XLHD CHAMBERS ARE DESIGNED FOR UNDERGROUND STORMWATER MANAGEMENT. THE CHAMBERS MAY BE USED FOR RETENTION, RECHARGING, DETENTION OR CONTROLLING THE FLOW OF ON-SITE STORMWATER RUNOFF.
- CHAMBER PARAMETERS**
1. THE CHAMBERS WILL BE MANUFACTURED IN THE U.S.A. BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
  2. THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE).
  3. THE CHAMBER WILL BE ARCHED IN SHAPE.
  4. THE CHAMBER WILL BE OPEN-BOTTOMED.
  5. THE CHAMBER WILL BE JOINED USING AN INTERLOCKING OVERLAPPING RIB METHOD. CONNECTIONS MUST BE FULLY SHOULDERED OVERLAPPING RIBS. HAVING NO SEPARATE COUPLINGS OR SEPARATE END WALLS.
  6. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC RECHARGER 150XLHD SHALL BE 18.5 INCHES (470 mm) TALL, 33 INCHES (838 mm) WIDE AND 11 FEET (3.35 m) LONG. THE INSTALLED LENGTH OF A JOINED RECHARGER 150XLHD SHALL BE 10.25 FEET (3.12 m).
  7. MAXIMUM INLET OPENING ON THE CHAMBER ENDWALL IS 12 INCHES (300 mm).
  8. THE CHAMBER WILL HAVE TWO SIDE PORTALS TO ACCEPT CULTEC HVLV FC-24 FEED CONNECTORS TO CREATE AN INTERNAL MANIFOLD. THE NOMINAL INSIDE DIMENSIONS OF EACH SIDE PORTAL WILL BE 8.5 INCHES (216 mm) HIGH BY 12 INCHES (304 mm) WIDE. MAXIMUM ALLOWABLE OUTER DIAMETER (O.D.) PIPE SIZE IN THE SIDE PORTAL IS 10.25 INCHES (260 mm).
  9. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (615 mm) LONG.
  10. THE NOMINAL STORAGE VOLUME OF THE RECHARGER 150XLHD CHAMBER WILL BE 2.650 FT<sup>3</sup> / FT. (0.246 m<sup>3</sup> / m) - WITHOUT STONE. THE NOMINAL STORAGE VOLUME OF A JOINED RECHARGER 150XLHD SHALL BE 27.16 FT<sup>3</sup> / UNIT (0.77 m<sup>3</sup> / UNIT) - WITHOUT STONE.
  11. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR WILL BE 0.913 FT<sup>3</sup> / FT (0.085 m<sup>3</sup> / m) - WITHOUT STONE.
  12. THE RECHARGER 150XLHD CHAMBER WILL HAVE THIRTY DISCHARGE HOLES BORED INTO THE SIDEWALLS OF THE UNITS CORE TO PROMOTE LATERAL CONVEYANCE OF WATER.
  13. THE RECHARGER 150XLHD CHAMBER SHALL HAVE 20 CORRUGATIONS.
  14. THE ENDWALL OF THE CHAMBER, WHEN PRESENT, WILL BE AN INTEGRAL PART OF THE CONTINUOUSLY FORMED UNIT. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
  15. THE RECHARGER 150XLHD STAND ALONE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO FULLY FORMED INTEGRAL ENDWALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE ENDWALLS.
  16. THE RECHARGER 150XLHD STARTER UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL, AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 10 INCHES (254 mm) HIGH X 20.5 INCHES (521 mm) WIDE.
  17. THE RECHARGER 150XLHD INTERMEDIATE UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY OPEN ENDWALL AND ONE PARTIALLY FORMED INTEGRAL ENDWALL WITH A LOWER TRANSFER OPENING OF 10 INCHES (254 mm) HIGH X 20.5 INCHES (521 mm) WIDE.
  18. THE RECHARGER 150XLHD END UNIT MUST BE FORMED AS A WHOLE CHAMBER HAVING ONE FULLY FORMED INTEGRAL ENDWALL AND ONE FULLY OPEN END WALL AND HAVING NO SEPARATE END PLATES OR END WALLS.
  19. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT WILL FIT INTO THE SIDE PORTALS OF THE RECHARGER 150XLHD AND ACT AS CROSS FEED CONNECTIONS.
  20. CHAMBERS MUST HAVE HORIZONTAL STIFFENING FLEX REDUCTION STEPS BETWEEN THE RIBS.
  21. HEAVY DUTY UNITS ARE DESIGNATED BY A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER.
  22. THE CHAMBER WILL HAVE A RAISED INTEGRAL CAP AT THE TOP OF THE ARCH IN THE CENTER OF EACH UNIT TO BE USED AS AN OPTIONAL INSPECTION PORT OR CLEAN-OUT.
  23. THE UNITS MAY BE TRIMMED TO CUSTOM LENGTHS BY CUTTING BACK TO ANY CORRUGATION.
  24. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.
  25. THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
  26. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12 FEET (3.65 m).

GENERAL NOTES



CULTEC TYPICAL INLET CONNECTION



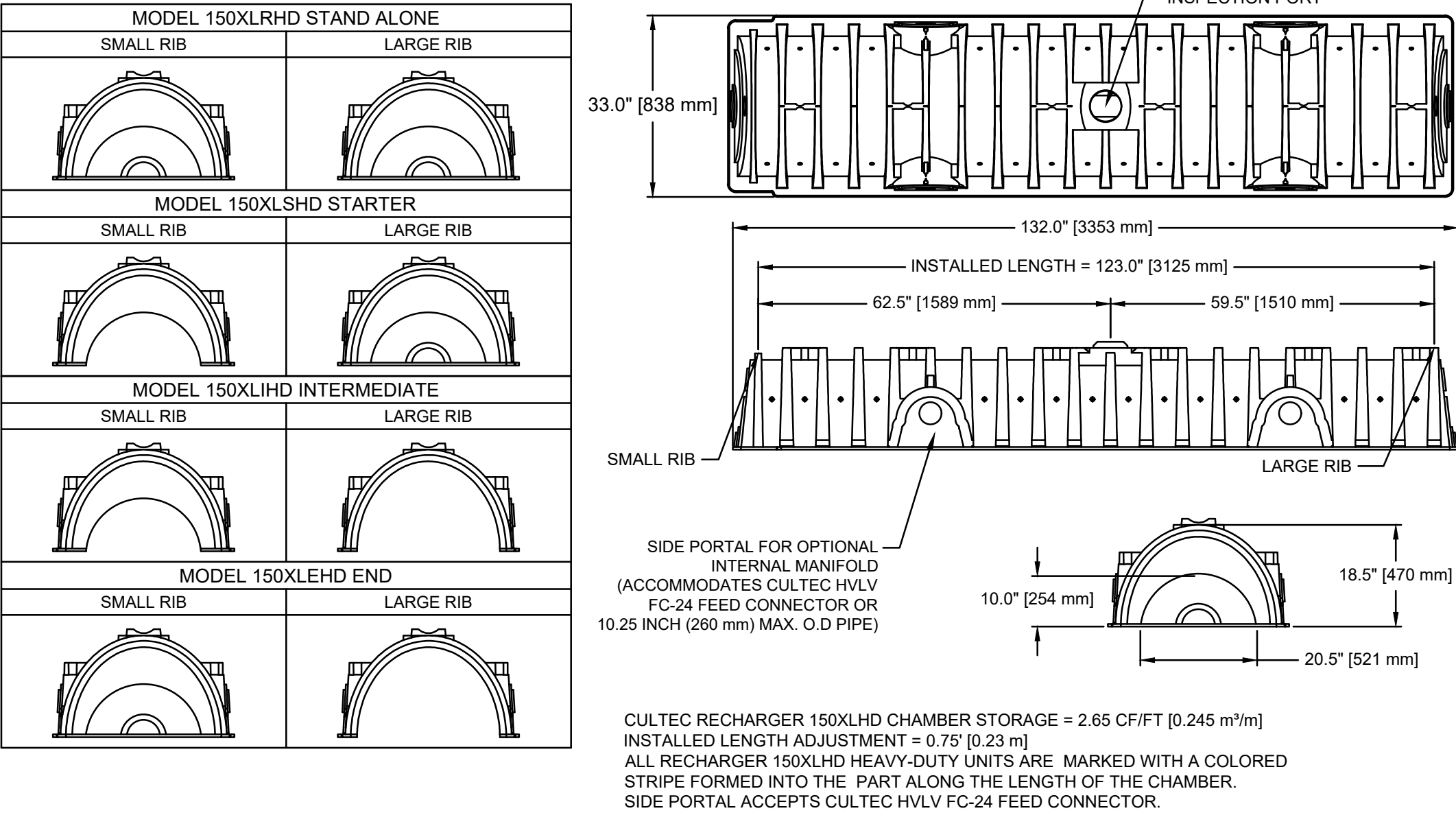
CULTEC RECHARGER 150XLHD HEAVY DUTY PLAN VIEW

**CULTEC, Inc.**  
Subsurface Stormwater Management Systems  
P.O. Box 280  
878 Federal Road  
Brookfield, CT 06804  
www.cultec.com

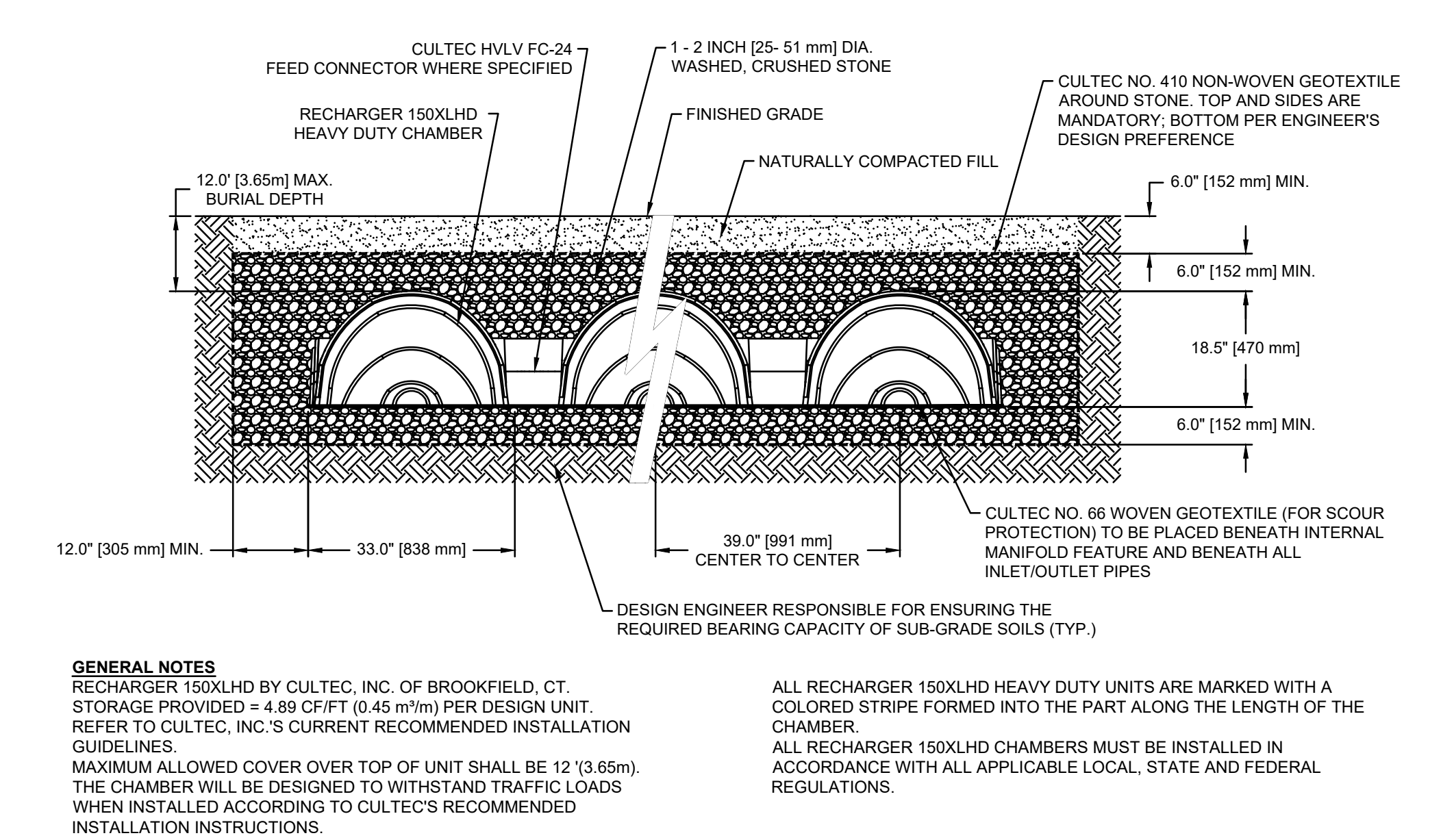
PH: (203) 775-4416  
PH: (800) 4-CULTEC  
FX: (203) 775-1462  
tech@cultec.com

CULTEC HVLV® FC-24 FEED CONNECTOR PRODUCT SPECIFICATIONS

- GENERAL**  
CULTEC HVLV FC-24 FEED CONNECTORS ARE DESIGNED TO CREATE AN INTERNAL MANIFOLD FOR CULTEC RECHARGER 150XLHD STORMWATER CHAMBERS.
- CHAMBER PARAMETERS**
1. THE CHAMBERS WILL BE MANUFACTURED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
  2. THE CHAMBER WILL BE VACUUM THERMOFORMED OF BLACK HIGH MOLECULAR WEIGHT HIGH DENSITY POLYETHYLENE (HMWHDPE).
  3. THE CHAMBER WILL BE ARCHED IN SHAPE.
  4. THE CHAMBER WILL BE OPEN-BOTTOMED.
  5. THE NOMINAL CHAMBER DIMENSIONS OF THE CULTEC HVLV FC-24 FEED CONNECTOR SHALL BE 12 INCHES (305 mm) TALL, 16 INCHES (406 mm) WIDE AND 24.2 INCHES (614 mm) LONG.
  6. THE NOMINAL STORAGE VOLUME OF THE HVLV FC-24 FEED CONNECTOR WILL BE 0.913 FT<sup>3</sup> / FT (0.085 m<sup>3</sup> / m) - WITHOUT STONE.
  7. THE HVLV FC-24 FEED CONNECTOR CHAMBER SHALL HAVE 2 CORRUGATIONS.
  8. THE HVLV FC-24 FEED CONNECTOR MUST BE FORMED AS A WHOLE CHAMBER HAVING TWO OPEN END WALLS AND HAVING NO SEPARATE END PLATES OR SEPARATE END WALLS. THE UNIT WILL FIT INTO THE SIDE PORTALS OF THE CULTEC RECHARGER STORMWATER CHAMBER AND ACT AS CROSS FEED CONNECTIONS CREATING AN INTERNAL MANIFOLD.
  9. THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.
  10. THE CHAMBER SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED FACILITY.
- CULTEC NO. 66™ WOVEN GEOTEXTILE**
- GENERAL**  
CULTEC NO. 66™ WOVEN GEOTEXTILE IS UTILIZED AS AN UNDERLAYMENT TO PREVENT SCOURING. SEPARATE END PLATES CANNOT BE USED WITH THIS UNIT.
- GEOTEXTILE PARAMETERS**
1. THE GEOTEXTILE SHALL BE PROVIDED BY CULTEC, INC. OF BROOKFIELD, CT. (203-775-4416 OR 1-800-428-5832)
  2. THE GEOTEXTILE SHALL BE BLACK IN APPEARANCE.
  3. THE GEOTEXTILE SHALL HAVE A TENSILE STRENGTH OF 315 LBS (1,400N) PER ASTM D4832 TESTING METHOD.
  4. THE GEOTEXTILE SHALL HAVE A TENSILE ELONGATION RESISTANCE OF 15% PER ASTM D4832 TESTING METHOD.
  5. THE GEOTEXTILE SHALL HAVE A MULLEN BURST RESISTANCE OF 600PSI (4138 KPA) PER ASTM D3786 TESTING METHOD.
  6. THE GEOTEXTILE SHALL HAVE A TEAR RESISTANCE OF 115 LBS (0.51 KN) PER ASTM D4533 TESTING METHOD.
  7. THE GEOTEXTILE SHALL HAVE A PUNCTURE RESISTANCE OF 150 LBS (0.66 KN) PER ASTM D4833 TESTING METHOD.
  8. THE GEOTEXTILE SHALL HAVE A CBR PUNCTURE RESISTANCE OF 900 LBS (4.00 KN) PER ASTM D6241 TESTING METHOD.
  9. THE GEOTEXTILE SHALL HAVE A UV RESISTANCE OF 70% @ 500 HRS. PER ASTM D4355 TESTING METHOD.
  10. THE GEOTEXTILE SHALL HAVE A PERMITTIVITY RATING OF 0.05 SEC-1 PER ASTM D4491 TESTING METHOD.
  11. THE GEOTEXTILE SHALL HAVE A WATER FLOW RATING OF 4 GPM/FT<sup>2</sup> (160 LPM/M<sup>2</sup>) PER ASTM D4491 TESTING METHOD.
  12. THE GEOTEXTILE SHALL HAVE A PERCENT OPEN AREA OF <1% PER CW-02215 TESTING METHOD.
  13. THE GEOTEXTILE SHALL HAVE AN APPARENT OPENING SIZE OF 40 US STD. SIEVE (0.425 mm) PER ASTM D4751 TESTING METHOD.
  14. THE GEOTEXTILE SHALL CONSIST OF A 100% HIGH-TENACITY, SILT-FREE POLYPROPYLENE YARNS.



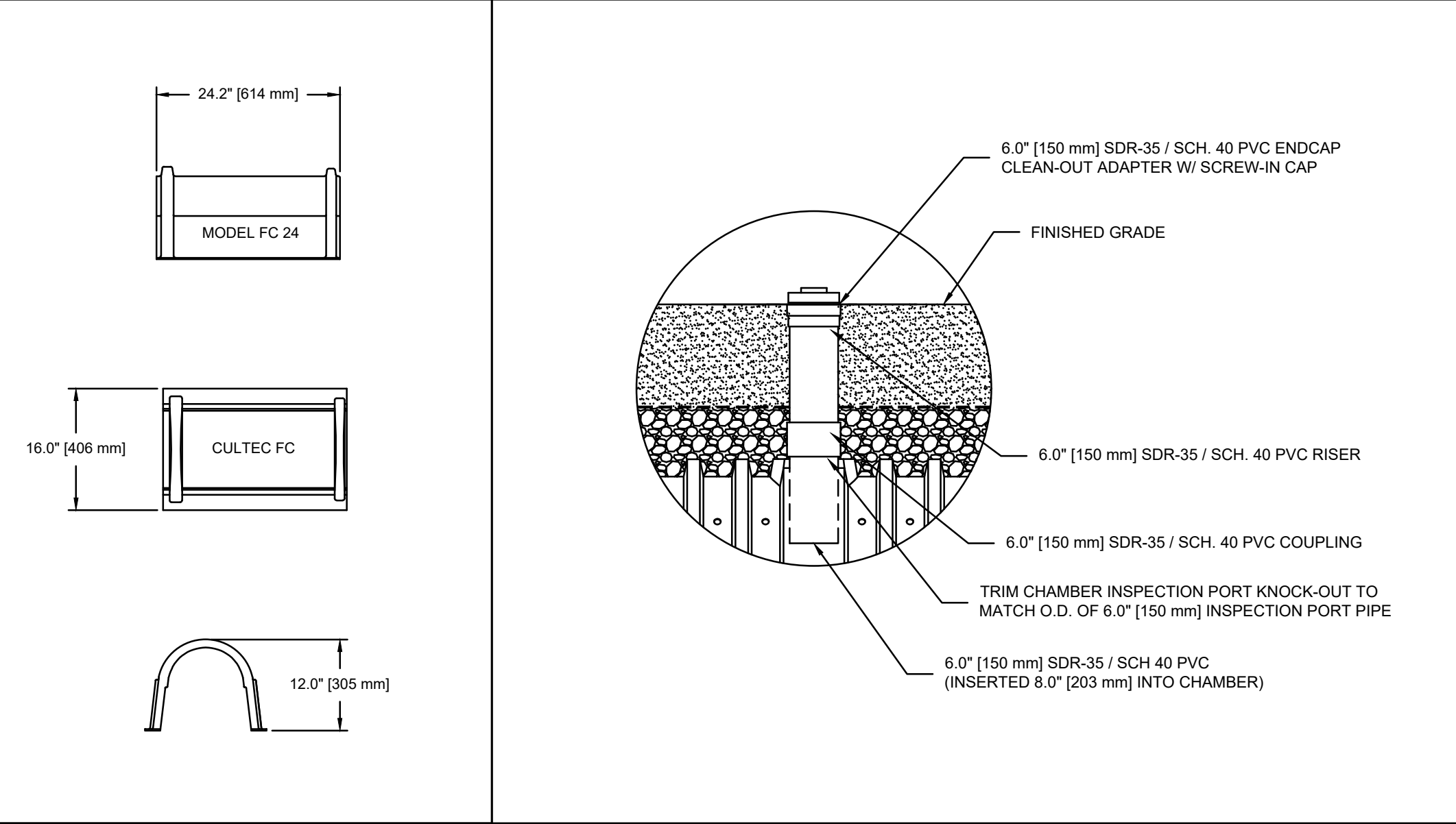
CULTEC RECHARGER 150XLHD HEAVY DUTY THREE VIEW



**GENERAL NOTES**  
RECHARGER 150XLHD BY CULTEC, INC. OF BROOKFIELD, CT. STORAGE PROVIDED = 4.89 CF/FT (0.45 m<sup>3</sup>/m) PER DESIGN UNIT. REFER TO CULTEC, INC.'S CURRENT RECOMMENDED INSTALLATION GUIDELINES. MAXIMUM ALLOWED COVER OVER TOP OF UNIT SHALL BE 12' (3.65m). THE CHAMBER WILL BE DESIGNED TO WITHSTAND TRAFFIC LOADS WHEN INSTALLED ACCORDING TO CULTEC'S RECOMMENDED INSTALLATION INSTRUCTIONS.

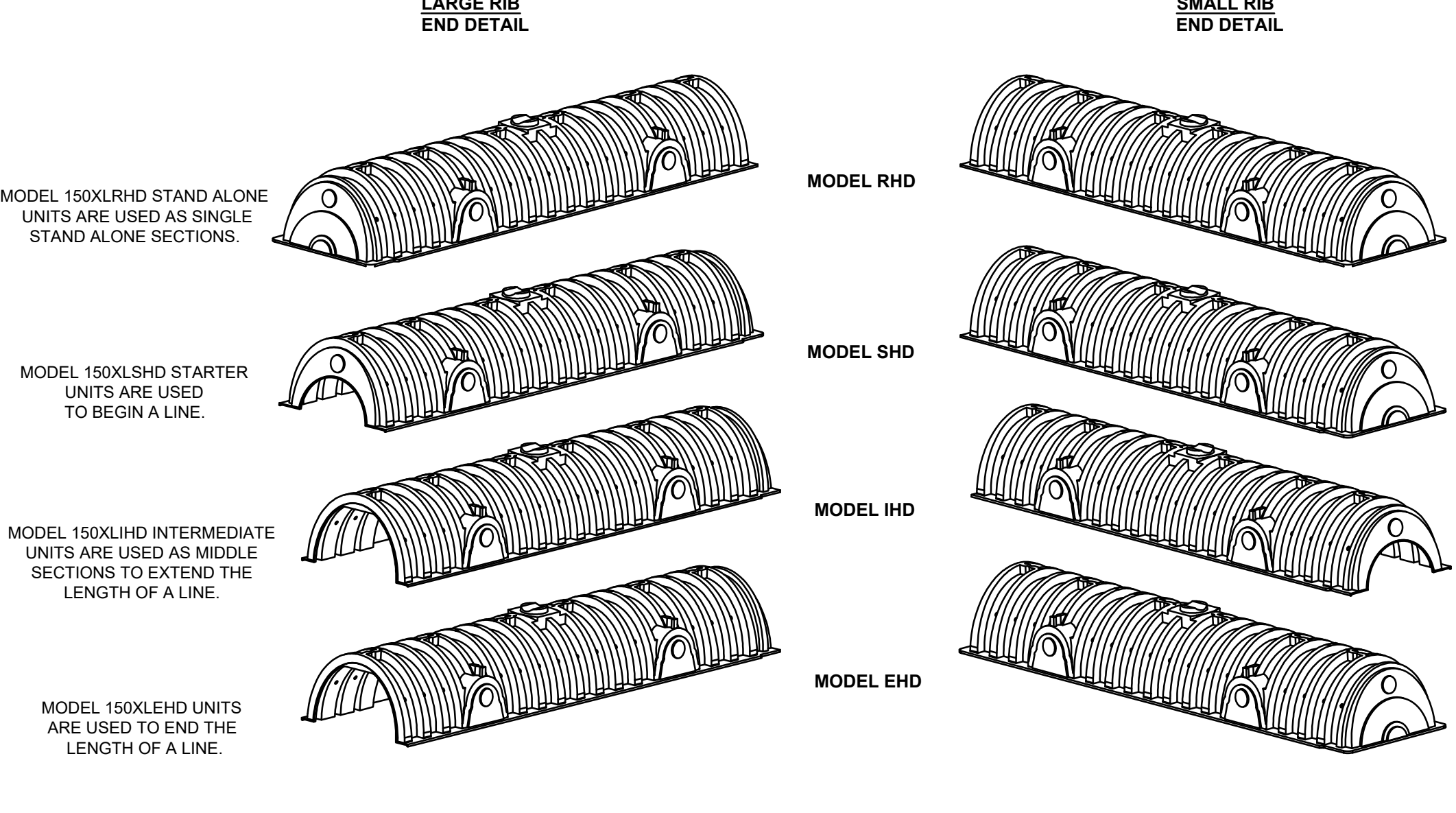
ALL RECHARGER 150XLHD HEAVY DUTY UNITS ARE MARKED WITH A COLORED STRIPE FORMED INTO THE PART ALONG THE LENGTH OF THE CHAMBER. ALL RECHARGER 150XLHD CHAMBERS MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

CULTEC RECHARGER 150XLHD HEAVY DUTY TYPICAL CROSS SECTION

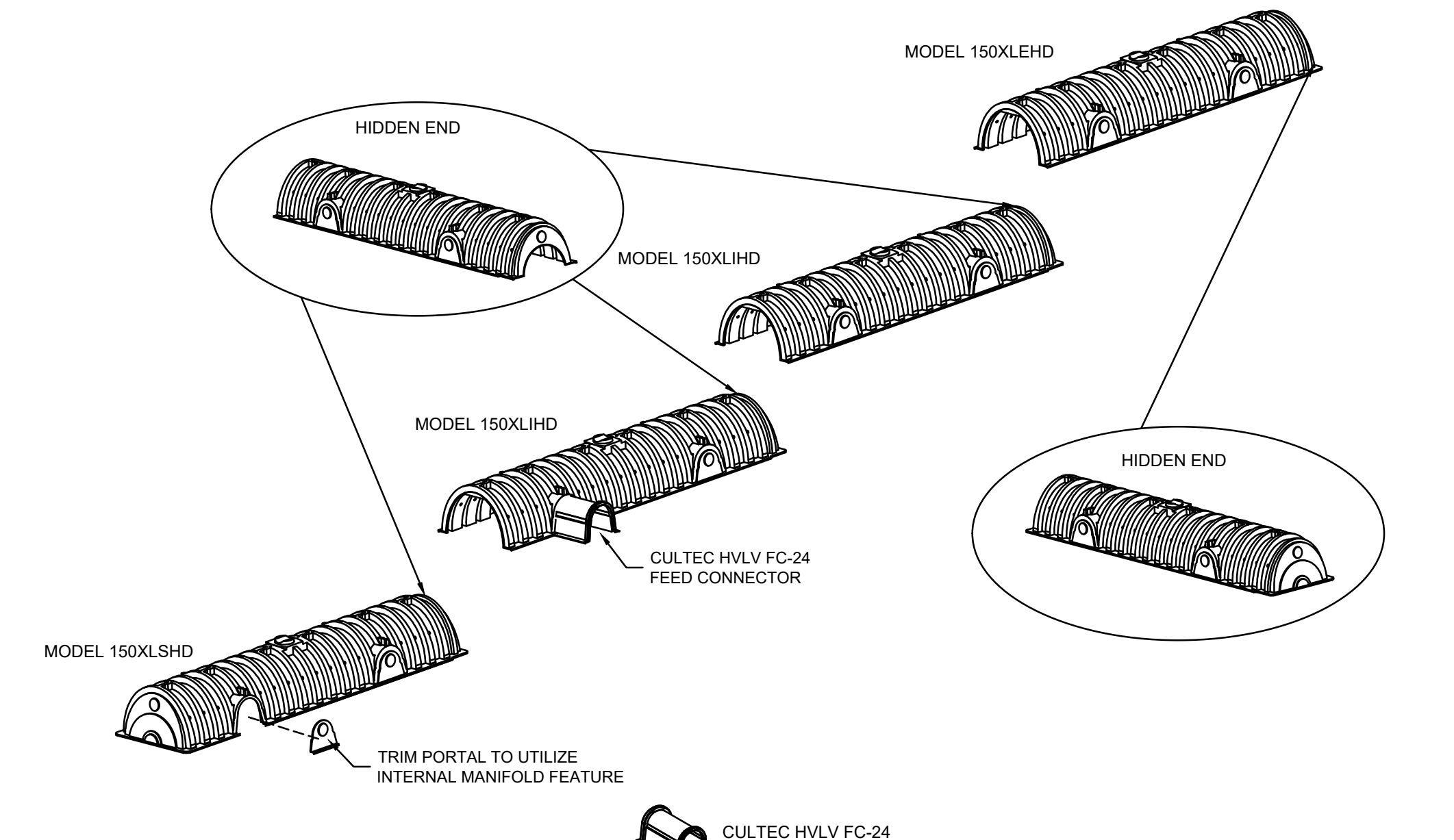


CULTEC HVLV FC-24 FEED CONNECTOR THREE VIEW

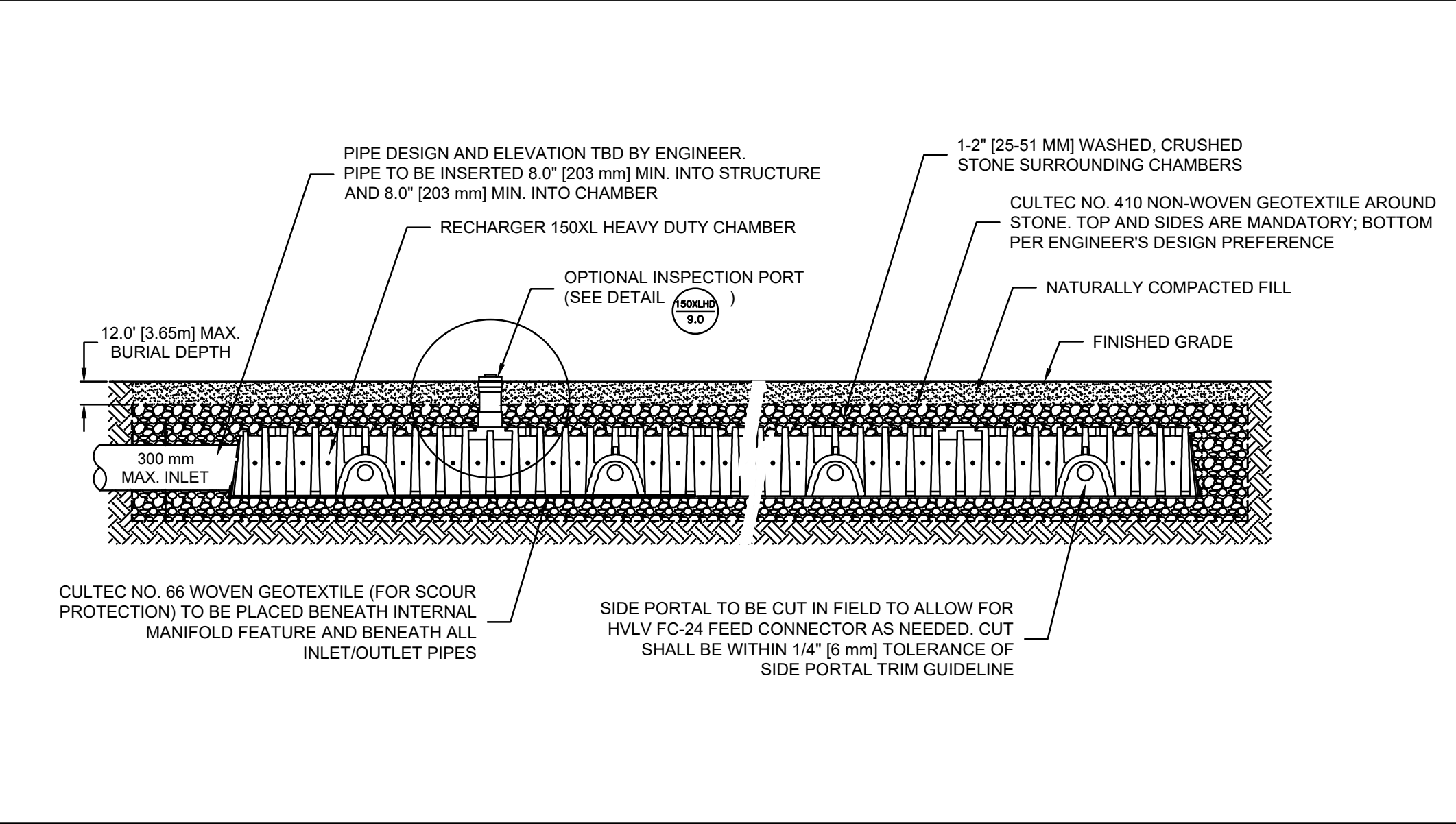
OPTIONAL INSPECTION PORT - ZOOM DETAIL



CULTEC RECHARGER 150XLHD HEAVY DUTY END DETAIL INFORMATION



CULTEC RECHARGER 150XLHD HEAVY DUTY TYPICAL INTERLOCK



CULTEC INTERNAL MANIFOLD - OPTIONAL INSPECTION PORT DETAIL

RECHARGER 150XLHD  
DETAIL SHEET  
NON-TRAFFIC APPLICATION

CULTEC RECHARGER® 150XLHD

PROJECT NO:	DATE:	02/2016
DESIGNED BY: CULTEC, INC	DRAWN BY:	TECH
SCALE: N.T.S.	SHEET NO:	D-7